POMONA UNIFIED SCHOOL DISTRICT

DMA 2000

NATURAL HAZARD MITIGATION PLAN

DRAFT

AUGUST 26, 2004

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Special Recognition and Profound Appreciation

Pomona Unified School District Natural Hazard Mitigation Steering Committee is appreciative of many organizations and individuals who provided resources or professional guidance in the preparation and development of this plan.

Alliance of School for Cooperative Insurance Programs (ASCIP) provided particular support and assistance with each step in the process and is therefore recognized for being a valuable resource as the district pursued accomplishment of this plan document.

Pomona Unified School District was fortunate that the City of Pomona was developing their plan. The District participated as members of the Technical Advisory Committee in support of the city and to develop its own plan. The exchange of information within the committee proved to be very valuable for the District's internal committee.

We availed ourselves of data, reports, and planning guidebook materials from a variety of sources, including the California Governor's Office of Emergency Services, the Los Angeles County Office of Education, and the Disaster Management Area Coordinators of Areas D, E & G. To better understand the requirements for the plan, the District reviewed on the internet plans from cities, counties and states across the country as part of the research in preparing this plan. Thank you to all those agencies, which are so generous to their colleagues in the emergency management profession.

Special Thanks & Acknowledgments

Pomona Unified School District Steering Committee
Pomona Unified School District Parents and Community
City of Pomona, Steering Committee
City of Pomona, Director of Public Works
City of Pomona, Fire and Police Departments
City of Pomona, Municipal Services Director
City of Pomona, Urban Development Department
California Polytechnic University - Pomona
Office of Disaster Management, Area G
State Division of Mines and Geology
Federal Emergency Management Agency
Governor's Office of Emergency Services
Red Cross-Pomona
Dyett & Bhatia-Urban and Regional Planners
Recalde Services Consultant
Southern California Edison
Southern California Gas Company

EXECUTIVE SUMMARY

Introduction

Historically, the residents of the City of Pomona and surrounding cities have experienced the effects of various natural hazards. The most prevalent natural hazards have been earthquakes, flooding, wildfires, and landslides. As the population of the City of Pomona and surrounding areas increased, so has the potential for exposure to natural hazards, putting the area's residents at a greater risk than in the past.

Mission

The mission of the District's Natural Hazards Mitigation Plan is to promote sound District policy designed to protect students, faculty and staff, infrastructure, school sites, critical support facilities, and the environment from natural hazards. This can be achieved by increasing awareness, documenting the resources for risk reduction and loss-prevention, and identifying activities to guide the District towards building a safer and more sustainable District.

Pomona Unified School District History

The District was formed in 1954, a combination of a merger of the Pomona Elementary School District, the Pomona High School District and the Spandra School District. Since its beginning, the District has experienced continued growth, and along with the City of Pomona, has adapted its services to meet the changing needs of a diverse community. At the current time, the District serves approximately 51,000 students and their families at various sites throughout the community. These services include K-12 Education, Adult Education, Regional Occupational Program (ROP), Pre-K childcare and education through the District's Child Development Department, and support services through central Administration. The District's Food Services Program serves 71.2% of the District's K-12 student population by providing free and reduced meals to contribute toward improvement in student performance and achievement.

The District consists of 27 Elementary Schools, 6 Middle Schools and 4 comprehensive Senior High Schools as well as other sites throughout the district serving the needs of the communities of Pomona and North Diamond Bar.

The District has an enrollment of 35,412 students (K-12). In addition the District services an additional population of 6,559 Adults & Career Education students. The District's teachers, staff and administration consist of 4,700. The District's K-12 demographics consist of:

American Indian or Alaska Native	38
Asian	1,925
Pacific Islander	85
Filipino	384
Hispanic	27,538
Black-not of Hispanic Origin	2,840
White-not of Hispanic Origin	2,598
Multiple or no response	4
Total K-12 Enrollment	35,412

See Appendix D for a description of each District's sites.

Plan Purposes

The NHMP is intended to serve many purposes. These include the following:

- Provide a methodical approach to mitigation planning.
- Enhance public awareness and understanding of natural hazards.
- Create a decision- making tool for District policy and decision makers.
- Promote compliance with State and Federal program requirements.
- Assure inter-jurisdictional coordination of mitigation-related programming.
- Create a natural hazard mitigation plans for implementation**.**

Planning Partners

A multi-jurisdictional planning effort has been guided by the above purposes. Individuals representing various agency interests served as a Steering Committee and the convening body for the NHMP. The Hazards Mitigation Planning Committee consisted of representatives from the various jurisdictions. THE DISTRICT served in the committee as a stakeholder. The planning partners are from the following jurisdictions and organizations:

Pomona Valley Hospital Medical Center
City of Pomona
City of Diamond Bar
City of Pomona Fire Department
City of Pomona Police Department
City of Pomona Municipal Services Director
City of Pomona Urban Development Department
California Polytechnic University - Pomona
Red Cross-Pomona
Southern California Edison
Southern California Gas Company

Public Participation

Various methods were used to encourage public participation in the planning process as well as to educate the public about hazard mitigation efforts in their communities. Documentation of these efforts appears in Appendix C. Since formal natural hazards mitigation planning had not previously been undertaken, the public participation efforts were directed at education and awareness. On June 24, 2004, a public scoping meeting offered community members the ability to take advantage of the opportunity to address questions and concerns at a shared meeting held by the City of Pomona and Pomona Unified School District. The subject focus of this meeting included the City's and District's NHMP. Other means used for distribution of information to involve the public, and specifically to include the local community were distribution of printed material explaining the reason and process behind natural hazard mitigation. This information contributes toward educating the public on the purpose and importance of hazard mitigation planning and further adds to understanding about natural hazards in the Pomona area.

On June 9, 24, and July 8, 2004 meetings were held for jurisdictions invited to participate in the Tactical Advisory Committee (TAC). In each meeting, individuals from the region were invited to join and participate in the planning efforts. These meetings provided information about the requirements of DMA 2000 and the necessity for mitigation planning efforts. The methods to assess risks, and to determine goals and objectives were among the items discussed. Also discussed was the importance of making a multi-jurisdictional effort to address natural hazards in order to mitigate their effects. There were 27 attendees at the June 9 meeting, 14 attendees at the June 24 meeting and 12 attendees at the July 8 meeting.

Another opportunity for public participation was at a meeting held on July 27, 2004 when the subject of natural hazard mitigation planning was on the Open Session Board Agenda and available for comment. There were 105 attendees at the meeting. The Board Agenda was available for review at multiple locations including the Education Center at 800 S. Garey Avenue in Pomona, the Pomona Public Library, the Diamond Bar Public Library, the Adult and Career Education Center as well as on the District website at: www.pusd.org

Risk Assessment

An assessment of risks from the hazards of earthquakes, floods, wildfires and landslides was performed to provide the factual basis for the mitigation initiatives proposed in the NHMP.
The risk assessment included the following elements:

- An identification and description of the type of natural hazard most likely to affect the school District, city and surrounding areas.
- A profile of the hazard events describing the location and extent of the natural hazard, including information on previous occurrences.
- Information on the impact of the hazards on the District in terms of vulnerability to assets and estimating potential losses.
- Data tables in the plan provided a survey of the District buildings at risk within the hazard areas, an estimate of the inventory of assets and their dollar value.

Mitigation Strategy - Goals and Objectives

One of the steps in preparing the NHMP pursuant to DMA 2000 is consideration of goals and objectives. The goals and objectives, which guided plan development, are intended to be implemented by the District as funding becomes available.

Each goal statement has objectives that provide a more specific framework for actions to be taken by the District and planning partners. The objectives define actions or results that can be placed into measurable terms, and translated into specific assignments for implementation. They also guide the development of proposed mitigation action. Each mitigation action corresponds to a specific goal and objective which that action seeks to implement. The goals and objectives reflect the suggestions of the TAC and the District's internal committee. The information is found in Section Four.

List of Mitigation Actions

Project Number	Goal #	Project Name	Project Description	Cost/Benefit	Target Date	Project Ranking
1	1	Alcott Annex	Construct permanent structures on the existing campus allowing for increased capacity to meet enrollment demands and provide housing that meets all current requirements for student occupancy and meeting all current seismic requirements.	Budgeted Funds are available for this project.	September 2004	1
2	1	Mission School	Construct new school facility on purchased land allowing for increased capacity to meet enrollment demands and provide housing that meets all current requirements for student occupancy and meet all current seismic requirements.	Budgeted Funds are available for this project	Phase I 2005 Phase II 2006 Total Completion time 3 yrs.	1.8
3	1	Ganesha Village School	Construct new school facility on purchased land allowing for increased capacity to meet enrollment demands and provide housing that meets all current requirements for student occupancy and meet all current seismic requirements.	Cost Benefits to be determined	2006 to 2007	3
4	2	Ed Center Modernization	Preservation and modernization of the Historical 1930 Education Center transition back to a school site.	Cost Benefits to be determined	2006_ to 2007_	3
5	3	Coordinate land use	Coordinate land use; develop facilities outside of, or mitigating exposure to, specific hazards	Budgeted as part of normal facilities development	2004-2005	1.2
6	3	Maintenance programs	Continue maintenance programs: grounds maintenance & debris clean-up, to minimize hazards caused by lack of appropriate care of properties	Budgeted as part of normal facilities maintenance	2004-2005	1.2
7	4	Develop targeted educational materials	Provide parent handouts informing them about Natural Hazard Mitigation Efforts in English and Spanish by distribution through students to parent population, and to local community	Cost Benefit to be determined	2005	1
8	4	Develop information for distribution to district employees	Continue to provide information to employees incorporated into Disaster Preparedness Practice Drills	Cost Benefit to be determined	2005	1.8
9	5	Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation	Continue to plan and maintain landscaping consistent with land use and preservation	Costs to be determined	Unknown	2
10	6	Coordinate and integrate natural hazard mitigation activities with land acquisition and development decisions	Assure that acquired land is evaluated per CEQA requirements and that building or improvements meet all current requirements for public school construction.	Budgeted into project development	2005-2007	1
11	7	Coordinate and integrate natural hazard mitigation with disaster preparedness activities	Integrate Natural Hazard Mitigation into the Education and Training of Staff, Students and Community.	Cost Benefit to be determined Grant Funding Source	2005 - 2007	1
12	7	Continue providing services with training and equipment to address all identified hazards	Provide training and equipment to address Natural Hazard Mitigation	Cost Benefit to be determined Grant Funding Source	2005-2007	2

Plan Adoption

Each entity that has participated in the planning process and put forward mitigation initiatives must individually adopt its NHMP prior to November 2004 in order to be eligible for hazard mitigation grant funding programs. The following table shows the approving body for each entity that participated in the planning process:

Entity	Approving Body
Pomona Unified School District	Board of Education
Pomona Valley Hospital Medical Center	Hospital Board
City of Pomona	City Council
City of Diamond Bar	City Council
Red Cross	Board
Cal-Poly Pomona University	Board

As the NHMP is considered for adoption, the District will ensure that proper process is followed according to the laws or rules that governs the Pomona Unified School District including adequate public notice and public hearings.

Prior to October 8, 2004, the District's Board will submit a letter requesting OES review and comment on the District's final draft of the NHMP. OES feedback will be incorporated in the plan. The District will update and present the final copy of the plan for adoption to the Board. Following the adoption, the plan will be delivered to OES for State review and subsequent review by FEMA.

Plan Monitoring and Maintenance

The District will be responsible for its plan monitoring and maintenance. The District will review the NHMP on a regular and periodic basis to consider changes in recent programs that may affect mitigation priorities. If an NHMP update is deemed necessary, the District will be responsible for establishing a work program and time frame for updating its plan. Without any intervening circumstances, the NHMP is to be updated at least every five years, or if necessary, after a major disaster where the County of Los Angeles is declared a Federal Disaster Area.

Implementation through Existing Programs

The District is responsible for the implementation of its mitigation initiatives based on funding availability and priorities. This implementation may include incorporating mitigation actions and activities into existing planning programs. In addition to plans, programs, and regulations, the District will also incorporate the mitigation measures into its Capital Facilities Master Plans that are projected to year 2010. Development trends will be considered in land use planning and future land use decisions.

Continued Public Involvement

The District, as well as all of the entities that participated and are stakeholders in the City of Pomona Plan, is committed to continued public involvement and education. It will be important that Natural Hazards Mitigation Planning becomes integrated into existing programs and becomes part of the way the District makes decisions about land use and facilities planning.

In the city and county jurisdictions, comprehensive plan amendment processes and capital facilities planning all have elements of public notification and involvement. These processes will be available to promote public dialogue regarding the importance of hazard mitigation.

Many of the mitigation actions contain elements of public education and should be implemented as soon as funds become available for those actions. Continued public involvement should also be integrated into existing emergency preparedness activities and information in order to continue to educate the students, teachers, administrators and the community on the importance of managing the risk of natural hazards.

Copies of the approved NHMP will be maintained at the District's Facilities Planning office as well as a copy in the Risk Management office. Information about the NHMP will also be available on the District's web site. Copies of the plan, a public document, may also be maintained at the City of Pomona Public Library as an addition to its collection.

SECTION I

SECTION I

Introduction

Historically, the residents of the City of Pomona and surrounding cities have experienced the effects of various natural hazards. The most prevalent natural hazards have been earthquakes, flooding, wildfires, and landslides. As the population of the City of Pomona and surrounding areas increased, so has the potential for exposure to natural hazards, putting the area's residents at a greater risk than in the past.

While the frequency of disaster occurrence is low, Pomona is susceptible to major natural hazards with potential for catastrophic consequences. The City developed their Natural Hazard Mitigation Plan (NHMP) to establish a strategy to implement improvements and programs to reduce the impact in the event of a natural disaster.

The City of Pomona NHMP builds upon preparedness and hazard reduction programs currently employed by the city resources and staff. The NHMP works in conjunction with the General Plan, Development Code, and the Multi-hazard Function Plan.

The General Plan establishes a city-wide development plan and policies to help achieve the City's vision and goals. The City is in the process of updating their General plan. The Development Code establishes regulations for development in the city, thereby implementing the General Plan policy framework.

The Multi-hazard Functional Plan establishes the emergency organization, task assignments, policies, and general procedures and coordination of the various emergency staff and service elements utilizing the Standard Emergency Management Systems (SEMS). The objective is to incorporate and coordinate the facilities and personnel of the City into an efficient response team capable of responding to any emergency, as an extension of the California Emergency Plan. In the event of a natural disaster, the City of Pomona, Pomona Unified School District and other agencies are activated through communication protocols and systems for emergency response. During a disaster, many school sites are utilized as emergency centers to assist the community.

Pomona Unified School District is a public provider of educational services for students from pre-K through grade 12 and adult. Our programs are designed to satisfy the needs of our students for both currently and in the future. Through ethical, responsive, and purposeful actions, the Pomona Unified School District will provide a fulfilling work environment for its employees, comprehensive service for its students, and enhanced value for parents, stakeholders, and partners, as well as a spirit of shared responsibility with the community.

It is the mission of the Pomona Unified School District to ensure that each student, to the degree of his/her highest potential, will demonstrate literacy in reading, writing, speaking, problem solving, and computing and that each student will demonstrate expected standards of citizenship.

In an effort to manage risk, contain costs, and promote sustainable communities, the Federal government outlined new mitigation planning requirements for local governments in the Disaster Mitigation Act of 2000. Although it is difficult to predict when the next disaster will occur, or the extent of an event, collaboration among public entities, private sector organizations and the citizens of the region will help minimize or mitigate the resulting losses.

Planning Effort

Natural hazard mitigation is defined as development and implementation of activities designed to reduce or eliminate losses resulting from natural hazards. The Pomona Unified School District, and other jurisdictions formed a committee to develop a hazard mitigation plan that would properly illustrate the area where district sites are located. Those hazards are identified as earthquake, landslide, flooding and wildfire.

The Pomona Unified School District was invited to participate as a stakeholder in the City of Pomona Multi-Jurisdictional Plan, The following entities participated in the development of the multi-jurisdictional plan and several entities have developed their own plan and combined resources to properly represent the region. The participants are:

California Polytechnic State University- Pomona
City of Diamond Bar
City of Pomona
City of Pomona Fire Department
City of Pomona Police Department
City of Pomona Public Works
City of Pomona Redevelopment Department
Pomona Unified School District
Pomona Valley Hospital Medical Center
Red Cross
Southern California Edison
Southern California Gas Company

This plan marks the beginning step towards a formal process for natural hazard mitigation planning in the area. It establishes a framework of research, information, and public education/involvement that can be expanded in the future to meet the needs of the region.

Plan Criteria

FEMA Region IX set out the following plan criteria as required in 44 CFR, Part 201 of the Federal Register. For a local plan to receive FEMA approval all the plan criteria must receive a satisfactory or outstanding rating as well as the plan must be adopted by the governing bodies of the jurisdictions. The following table outlines the criteria and the chapter or appendix in the plan that addresses that specific requirement.

FEMA Approval Criteria Cross Reference (May 25, 2004)

Prerequisites	FEMA Approval Criteria	Chapter Number
1	Adoption by the Local Governing Body [44 CFR 201.6(c) (5)]	
	A. Has the local governing body adopted the plan?	N/A Draft
	B. Is supporting documentation, such as a resolution, included?	Appendix A
2	Multi-jurisdictional Plan Adoption [44 CFR 201.6 (c) (5)]	
	A. Does the plan indicate the specific jurisdictions presented plan?	N/A
	B. For each jurisdiction, has the local governing body adopted the plan?	N/A
	C. Is supporting documentation, such as a resolution, included for each participating jurisdiction?	N/A
3	Multi-jurisdictional Planning Participation [44 CFR 201.6 (a) (3)]	
	A. Does the plan describe how each jurisdiction participated in the plan's development?	N/A
4	Planning Process [201.6 (b)]	
	Documentation of the Planning Process [44 CFR 201.6 (b) & 201.6 (c) (1)]	
	A. Does the plan provide a narrative description of the Process followed to prepare the plan?	pp 5,6,12,18, 19,25
	B. Does the plan indicate who was involved in the planning process?	pp 12,21,22
	C. Does the plan indicate how the public was involved?	pp22,23,65,69, 71
	D. Was there an opportunity for neighboring communities, agencies businesses, academia, nonprofits, and other interested parties to be involved in the planning process?	pp 5,69,71
	E. Does the planning describe the review and incorporation, if appropriate, of plans, studies, reports, and technical information?	pp 11,20-22, 69,83, App. E & G

5	Local Capabilities Assessment (State OES Requirement) [44 CFR 201.4 (c) (3) (ii)	
	A. Does the plan provide a description of the human, technical and financial resources available within this jurisdiction to engage in a mitigation planning process and to develop a local hazard mitigation plan? (These resources are described in Section 2.2 of the OES LHMP Development Guide).	pp 11,12,21
	B. Does the plan list local mitigation funding sources (taxes, fees, assessments or fines) which affect or promote mitigation within the reporting jurisdiction?	pp 39-41,44, 47
	C. Does the plan list local ordinances which affect or promote disaster mitigation, preparedness, response or recovery within the reporting jurisdiction?	pp 39-41, 44,47
	D. Does the plan describe the details of ongoing mitigation projects and programs within the reporting jurisdiction?	pp 7. 53-61
6	Risk Assessment [44 CFR 201.6 (c) (2) & 201.6 (c) (2) (i)]	
	A. Does the plan include a description of the types of all natural Hazards that affect the jurisdiction?	pp 25-32
7	Profiling Hazards [44 CFR 201.6 (c) (2)(i)]	
	A. Does the risk assessment identify the **location** (i.e., geographic area affected) of each natural hazard addressed in the plan?	Appendix F pp 73-79
	B. Does the risk assessment identify the **extent** (i.e., magnitude or severity) of each hazard addressed in the plan?	Appendix E,F pp 33-48
	C. Does the plan provide information on **previous occurrences** of each hazard addressed in the plan?	pp33,43,45,46, 48
	D. Does the plan include the **probability of future events** (i.e., chance of occurrence) for each hazard addressed in the plan?	pp26,27,37-39 Appendix G
8	Assessing Vulnerability: Overview [44 CFR 201.6 (c)(2)(ii)]	
	A. Does the plan include an **overall summary** description of the jurisdiction's **vulnerability** to each hazard?	pp 32-39, 49
	B. Does the plan address the **impact** of each hazard on the jurisdiction?	pp 33-39
9	Assessing Vulnerability: Identifying Structures [44 CFR 201.6(c)(2)(ii)(A)]	
	A. Does the plan describe vulnerability in terms of the **types and numbers** of **existing** buildings, infrastructure, and critical facilities located in the identified hazard areas?	pp49-51 Appendix D
	B. Does the plan describe vulnerability in terms of the **types and numbers** of **future** buildings, infrastructure, and critical facilities located in the identified hazard areas?	Appendix D
10	Assessing Vulnerability: Estimating Potential Losses [44 CFR 201.6(c)(2)(ii)(B)]	
	A. Does the plan estimate **potential dollar losses** to vulnerable structures?	Appendix F

	B. Does the plan describe the **methodology** used to prepare the estimate?	pp 49-51
11	Assessing Vulnerability: Analyzing Development Trends [44 CFR 201.6(c)(2)(ii)(C)]	
	A. Does the plan describe land uses and development trends?	pp 8,66
12	Multi-Jurisdictional Risk Assessment [44 CFR 201.6(c)(2)(iii)]	
	A. Does the plan include a risk assessment for each participating jurisdiction as needed to reflect unique or varied risks?	N/A
13	**Mitigation Strategies:** [44 CFR 201.6(c)(3)]	
	Local Hazard Mitigation Goals [44 CFR **201.6(c)(3)(i)]**	
	A. Does the plan include a description of mitigation **goals** to reduce or avoid long-term vulnerabilities to the identified hazards?	pp 53-54
14	Identification and Analysis of Mitigation Actions [44CFR **201.6(c)(3)(ii)]**	
	A. Does the plan identify and analyze a **comprehensive range** of specific mitigation actions and projects for each hazard?	pp 7, 55-61
	B Do the identified actions and projects address reducing the effects of hazards on **new** buildings and infrastructure?	pp 7, 55-61
	C. Do the identified actions and projects address reducing the effects of hazards on **existing** buildings and infrastructure?	pp 7, 55-61
15	Implementation of Mitigation Actions [44 CFR **201.6(c)(3)(iii)]**	
	A. Does the mitigation strategy include how the actions are **prioritized**? (For example, is there a discussion of the process and criteria used?)	pp 57-62
	B. Does the mitigation strategy address how the actions will be **implemented and administered**? (For example, does it identify the responsible department, existing and potential resources, and timeframe?)	pp 57-61, 63
	C. Does the prioritization process include an emphasis on the use of a **cost-benefit review** (see page 3-36 of *Multi-Hazard Mitigation Planning Guidance*) to maximize benefits?	pp 55, 56
16	Multi-Jurisdictional Mitigation Actions [44 CFR **201.6(c)(3)(iv)]**	
	A. Does the plan include at least one identifiable **action item** for each jurisdiction requesting FEMA approval of the plan?	N/A

17	Plan Maintenance Process	
	Monitoring, Evaluating, and Updating the Plan [44 CFR **201.6(c)(4)(i)]**	
	A. Does the plan describe the method and schedule for monitoring the plan? (For example, does it identify the party responsible for monitoring and include a schedule for reports, site visits, phone calls, and meetings?)	pp 8, 65, 66
	B. Does the plan describe the method and schedule for **evaluating** the plan? (For example, does it identify the party responsible for evaluating the plan and include the criteria used to evaluate the plan?)	pp 65
	C. Does the plan describe the method and schedule for **updating** the plan within the five-year cycle?	
18	Incorporation into Existing Planning Mechanisms [44 CFR **201.6(c)(4)(ii)]**	
	A. Does the plan identify other local planning mechanisms available for incorporating the requirements of the mitigation plan?	pp 65
	B. Does the plan include a process by which the local government will incorporate the requirements in other plans, when appropriate?	pp 66
19	Continued Public Involvement [44 CFR **201.6(c)(4)(iii)]**	
	A. Does the plan explain how **continued public participation** will be obtained? (For example, will there be public notices, an on-going mitigation plan committee, or annual review meetings with stakeholders?)	pp 9, 65

SECTION II

SECTION II

Plan Purpose and Development

Plan Purpose

Early in the planning process, the Pomona Unified School District identified several purposes for their plan. These include the following:

- **Provide a Methodical Approach to Mitigation Planning**

  The process used by the planning partners identifies vulnerabilities to future disasters and proposes the mitigation initiatives necessary to avoid or minimize those vulnerabilities. Each step in the planning process builds upon the previous, providing a high level of assurance that the mitigation initiatives proposed by the District and the participants have a valid basis for both their justification and priority for implementation.

- **Enhance Public Awareness and Understanding of Natural Hazards**

  This plan contains data and information that can be used in a variety of ways to enhance public awareness about natural hazards. Section III of the plan identifies the four most prevalent natural hazards threatening the region and provides an assessment of where the region is vulnerable to those hazards. There is also data that estimates what the potential costs would be to the school district should there be a significant event. This information gives a better understanding of what the most prevalent hazards are historically and how those hazards impact or threaten the Pomona Unified School District's capability as a provider of critical services to public education, safety, and the operational capability of the district.

  The mitigation actions identified in this section will also help the public become aware of some important steps that can be taken in the community to manage risk, protect lives and property and promote community sustainability. The planning partners have provided opportunities for public involvement and information.

  This multi-jurisdictional effort has reached out to stakeholders from cities, hospital, Cal Poly Pomona and the district. The planning partners have also solicited ideas and input during informational sessions as the plan was being drafted.

- **Create a Decision-making Tool for school District Policy and Decision Makers**
  This document is intended to provide basic information needed to take actions to address vulnerabilities to future natural disasters. It also provides proposals for specific projects and programs that are needed to eliminate or minimize those vulnerabilities.

These proposals, called “mitigation actions” and identified in Section IV, are related to the needs of the District. They have been evaluated as to their economic benefits, and have been prioritized for implementation as funding become available. This approach is intended to provide a decision- making tool for District management.

- **Promote Compliance with State and Federal Program Requirements**

  A number of state and federal grant programs, policies, and regulations encourage or mandate local government to develop and maintain a comprehensive Natural Hazards Mitigation Plan. The Federal Disaster Mitigation Act of 2000 established a requirement that for all disasters declared on or after November 1, 2004, applicants for grants for disaster mitigation funds must have an approved local mitigation plan. This plan is specifically intended to assist the Pomona Unified School District in complying with these requirements, and to enable the District to more fully and quickly respond to state and federal funding opportunities for mitigation-related projects.

  Because the plan defines, justifies and prioritizes mitigation actions that have been formulated through a technically valid hazard review and vulnerability assessment process, the Pomona Unified School District is better prepared to more quickly and easily develop the necessary grant application materials for seeking state and federal funding.

- **Assure Inter-Jurisdictional Coordination of Mitigation-Related Programming**

  A key purpose of the planning process is to ensure that proposals for mitigation actions are coordinated considering participating jurisdictions within the area. In this way, there is a high level of confidence that mitigation actions proposed by one jurisdiction or participating organization, when implemented, will be compatible with the mutual interests of adjacent jurisdictions and unlikely to duplicate or interfere with mitigation actions proposed or implemented by others.

- **Create Jurisdiction Specific Hazard Mitigation Plans for Implementation**

  A key purpose of the plan is to provide the District and stakeholders with a specific plan of action that can be adopted and implemented pursuant to its own authorities and responsibilities. In Section IV, the District ranked and adopted their corresponding mitigation actions for the District.

Plan Development

The above purposes have guided the plan development. The District and the steering stakeholders committee move forward as the convening body for the plan. Documentation of these efforts appears in Appendix C. The committee met to guide development of the mitigation plan and the following outlines their activities:

Date	Activity	Subject
May 06, 2004	Kick-off Meeting TAC	The purpose of the plan and what needs to be done to accomplish the task of plan development. Review plan criteria and devise a draft identifying hazards for next meeting on natural hazards.
May 14, 2004	Planning Meeting Internal PUSD	Overview of DMA 2000, Plan requirements review, Timeline for the District plan, Members, Participation and support.
May 25, 2004	Cabinet Meeting	Administrative Report to provide Cabinet with opportunity for understanding and appreciation about Natural Hazard Mitigation, Discussion Item.
June 09, 2004	Meeting TAC	Reviewed natural hazards affecting the area. Technical Committee and all stakeholders to supply feedback on draft document. Additional information was submitted to the coordinating team. Document what the Goals and Objectives should be for the stakeholders.(27 attendees)
June 09, 2004	Planning Meeting Internal PUSD	Review outcomes of TAC Meeting at the City of Pomona and inputs from community stakeholders relevant to the District's plan development. Overview of goal, identification of building types, risk assessment planning, plan for public scoping meeting presentation with City of Pomona.
June 24, 2004	Meeting TAC	Discussed Public Process, advisory committee inputs. Developed goals, objectives, and actions. Technical review of hazards plan, updated information and public meeting. (14 attendees)
June 24, 2004	Planning Meeting Internal PUSD	Review of information obtained during TAC meeting. Preparation of information to be presented at Public Scoping Meeting. Review district plan and prepare for questions and feedback.
June 24, 2004	Public Meeting	Public Scoping Meeting to allow public/community input, feedback, comment on the Natural Hazard Mitigation Plan. (30 attendees)
July 08, 2008	Meeting TAC	Technical review of hazards plan, updated information. Ranking /importance of goals, objectives, political support and others.(12 attendees)
July 27, 2004	Planning Meeting Internal PUSD	Prioritize Goals and Objectives, review Natural Hazard Mitigation Plan draft.
July 27, 2004	Public Meeting	Board of Education Meeting. Natural Hazard Mitigation Plan Development Resolution, Open to public comment. (105 attendees)

Other Meetings:		
May 11, 2004	Alliance of Schools for Cooperative Insurance Programs (ASCIP)	Overview of DMA 2000 requirements. Various member districts in attendance discussed: How to draft a plan, requirements for FEMA approval, Crosswalk criteria, planning steps to initiate.
May 12, 2004	Los Angeles County Office of Education	Facilities Networking Meeting during which multiple school districts were presented information on Natural Hazard Mitigation Planning, OES requirements, impacts on facilities planning, future projects, questions and answers.
June 10, 2004	Los Angeles County Office of Education	Facilities Networking Meeting during which information was distributed regarding Local Hazard Mitigation Planning.
Pending OES Review	Plan Approval and Adoption	Board approval of the Pomona Unified School District's Natural Hazard Mitigation Plan

The Stakeholders Planning Committee consists of representatives from the following jurisdictions:

Entity	Representative
Pomona Unified School District	Pam Lopez, Asst. Superintendent/CFO Business Svc., Enrique Medina, Asst. Superintendent/Facilities, Amy McElwain, Director Risk Management, Joseph Williams, Director Maintenance & Operations, Isela Vazquez Director Facilities Planning, Ronald Young Facilities Planner, Fausto Recalde, Consultant
City of Pomona	Dyett & Bhatia, Urban and Regional Planners Consultants, Joan Isaacson, Senior Planner/Associate; Anna Hutchinson, GIS Specialist/Assistant Planner,
City of Pomona Police Department	Chief Lewis, Carrie Cruz, Emergency Operations Coordinator
City of Pomona Fire Department	Jim Enriquez, Battalion Chief
City of Pomona Community Development Department	Rick Gomez, Community Development Director Ronald M. Shinn, Senior Management
City of Pomona Public Works Department	Chris Vogt, Director Public Works
City of Pomona Utility Services Department	Tim Connor, Utility Services Representative
California Polytechnic State University-Pomona	Debbie McFall, Emergency Preparedness Coordinator; Dr. Richard Hyslop, Chair, Geography Department.
City of Diamond Bar	John Bingham, NHMP Consultant

Pomona Valley Hospital Medical Center	Ken Van Lul, Vice President of General Services, Michael Vestino, Director of Facilities, Fausto Recalde , Consultant
Red Cross Pomona Chapter	Dave Amdahl
Southern California Gas Company	Bob Cruz, Gas Company Service Representative

The Hazards Mitigation Planning Committee consisted of representatives from the jurisdictions. The same Committee members:

- Provide technical input and information specific to their jurisdiction/entity to exchange ideas for the development of a plan.
- Develop mitigation plan goals based on local hazards to provide a long-term vision reducing our region's vulnerability to natural hazard events.
- Identify, analyze, and prioritize the mitigation initiatives for the region as well as for their jurisdiction.
- Analyze the cost and benefit of the mitigation initiatives.
- Identify appropriate public involvement opportunities and participate in or host a public meeting.
- Review plan elements in draft and final form.

Public Participation

A variety of methods were used to encourage public participation in the planning process as well as to educate the public about hazard mitigation efforts in their communities. Documentation of these efforts appears in Appendix C. Since formal natural hazards mitigation planning had not previously been undertaken the public participation efforts were directed at education and awareness.

The public scoping meetings were structured to provide information about mitigation planning. Also, the meetings provided attendees the opportunity to ask questions or address concerns or provide input. The City of Pomona and Pomona Unified School District hosted a meeting at the City's Council Chambers June 24, 2004.

The subject focus of the meeting included the city and school district's natural hazard mitigation plan. These meetings provided information about the requirements of DMA 2000, the necessity for mitigation planning efforts and the methods to assess risks and determine goals and objectives were among the discussion items as well as the importance of making a multi-jurisdictional effort to address natural hazards in order to mitigate their effects. There were 30 attendees at the June 24, 2004.

Another opportunity for public participation was on July 27, 2004 when the subject of natural hazard mitigation planning was on the open session board agenda and available for comment. There were 105 attendees at the meeting. The board agenda was available for review at multiple locations including the Education Center at 800 S. Garey Avenue in Pomona, the Pomona Public Library, the Diamond Bar Public Library, the Adult and Career Education Center as well as on the district website at: www.pusd.org.

Other means used for distribution of information to involve the public and specifically to include the local community were distribution of printed material explaining the reason and process behind natural hazard mitigation. This information contributes toward educating the public on the purpose and importance of hazard mitigation planning and further adds to understanding about natural hazards in the Pomona area. The District's website proved to be a valuable tool to disseminate information regarding the plan and natural hazard mitigation efforts.

The following provides a synopsis of the public participation and education efforts. . Documentation of these efforts appears in Appendix C.

Date	Activity
Insert Date of Communication	Communication with local jurisdictions regarding natural hazard mitigation in the City of Pomona.
May 25, 2004	Superintendent's Cabinet provided information and documentation for discussion regarding DMA 2000
June 09, 2004	Meeting with jurisdictions to provide information on mitigation planning and inviting them to join multi-jurisdictional planning effort.
June 24, 2004	Meeting with jurisdictions regarding public scoping meeting and progress on mitigation planning. Public Scoping Meeting to reach out to and involve community members in the process of mitigation planning and receive input and information from the perspective of the attending constituency.
July 8, 2004	Meeting with jurisdictions regarding mitigation goals and objectives.
July 27, 2004	Pomona Unified School District Board of Education made Resolution regarding Natural Hazard Mitigation Planning.
July 27, 2004	Information on NHMP on website at: www.pusd.org
August 16, 2004	E- mailed draft plan to stakeholder(s) with request for comment and input.

SECTION III

SECTION III

Risk Assessment

Introduction

This section presents an overview of the natural hazards that faces the Pomona Unified School District, and provides a summary of the critical District facilities and vulnerabilities that are most likely to be affected by each of them. The hazards that are profiled are: earthquake, flooding, wildfire and windstorms. Each section presents a description of the hazard in the region, areas of risk in Pomona, and a summary of the District vulnerable facilities that are located within identified hazard zones. The hazards and risks are also presented in Appendix E. Maps 1 through 4.

The purpose of the Risk Assessment section is to provide the factual basis for the mitigation actions which are proposed in the next section. This section meets the following federal criteria for the Risk Assessment:

- Identifying hazards, that is, to describe the type of natural hazard most likely to affect the region.
- Profile hazard events, which are defined as describing the location and extent of the natural hazard, including information on previous occurrences.
- Assessing vulnerability, that is, to provide information on the impact of the hazard on the region in terms of identifying assets and estimating potential losses.

The section begins with some multi-hazard information, including federal disaster declarations, hazard analysis definitions, and hazard identification. However, the bulk of the section consists of hazard specific information including: Hazard Area Maps which describe the location and extent of the identified hazards, a description of historical occurrences and impacts, which is followed by extensive and detailed vulnerability assessment data tables. These data tables are of three types: 1) Calculation of proportion of assets in the hazard areas, 2) Specific information about the assets such as building size, replacement value, content value, function use or value displacement cost, occupancy or capacity 3) Estimation of losses to the District Critical Facilities within hazard areas.

Source data to arrive at the costs for estimated losses, building and content values and other material cost information was derived by using reports as provided by the district's property and liability insurer adding a factor to cover for items not included such as costs for foundations. Information on building structure types, occupancy, and other matters pertaining to housing were derived from the Facilities Planning Handbook. See Appendix F.

Risk Assessment Methodology

The information in this plan was collected through detailed research, building off of data presented in *Existing Conditions, Opportunities, and Challenges Report* for the General Plan Update. Additional sources of data include technical reports from the United States Geological Service (USGS), City of Pomona and other government agency reports, FEMA guidebooks, adopted hazard mitigation plans, and materials published by the Disaster Management Area Coordinator for the Los Angeles County Region. When possible, the data was collected in or converted to GIS format. This format allows for overlay of the hazards with sensitive structures, and lays the foundation for more complex spatial analysis in the future.

Hazard Analysis Definitions

To make its analysis of hazards more useful, the District requested the assistance and support of the City of Pomona experts in the committee. *Hazard Identification and Vulnerability Analysis* (HIVA) established adjective descriptors (High, Moderate, and Low) for each hazard's probability of occurrence and vulnerability, and a risk rating has been assigned based on a subjective estimate of their combination. The risk rating is assigned on the probability of a hazard occurring over the next 25 years. This interval was chosen because it is the long-term recurrence interval of a dangerous earthquake, the hazard of the greatest risk to Southern California, Los Angeles County, Pomona Valley, City of Pomona and the District.

The following terms were used in the District HIVA, and are referenced in this plan to analyze the hazards considered:

Probability of Occurrence: An adjective description (High, Medium, or Low) of the probability of a hazard impacting the district within the next 25 years.

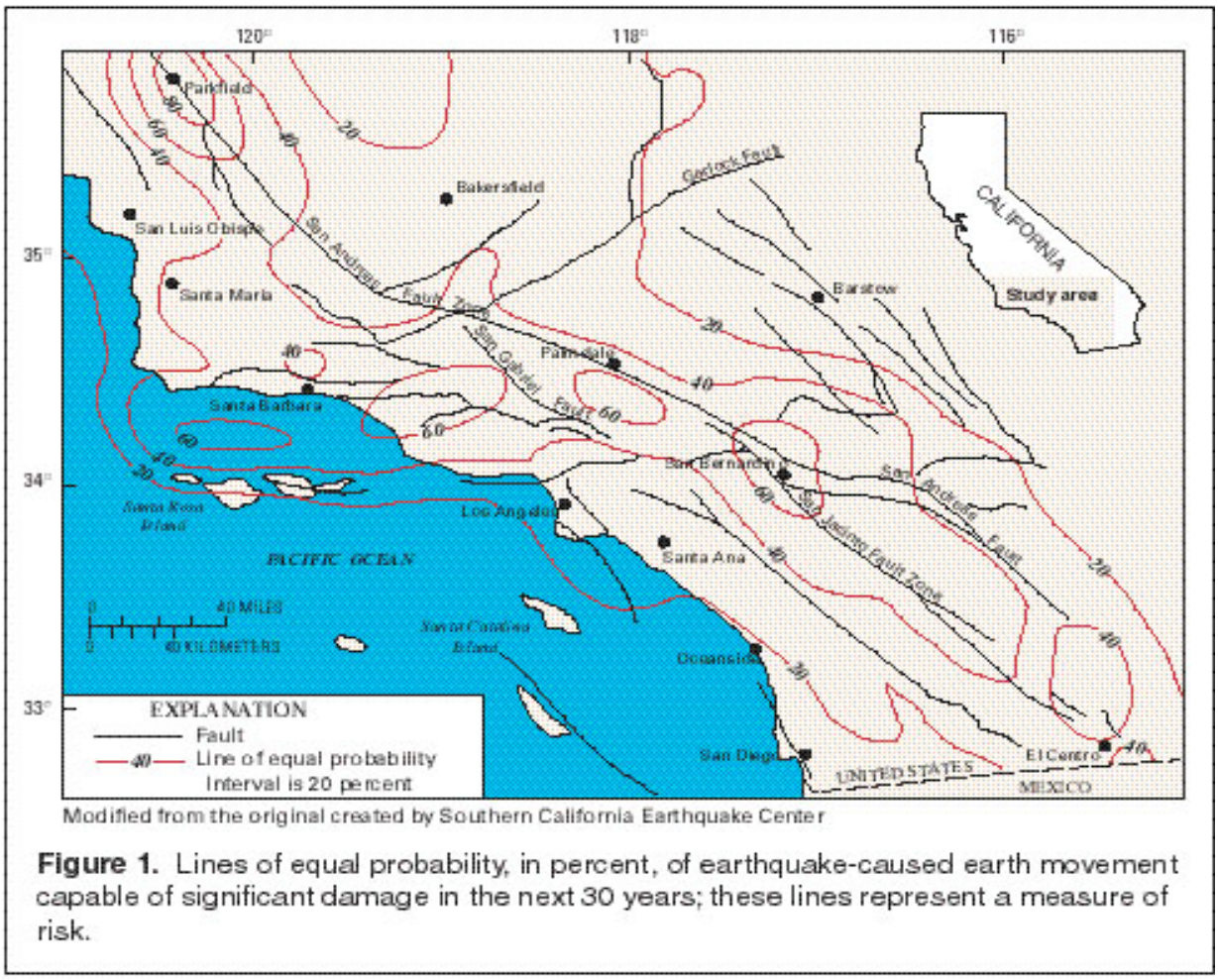
- High: There is great likelihood that a hazardous event will occur within the next 25 years.
- Medium: There is moderate likelihood that a hazardous event will occur within the next 25 years.
- Low: There is little likelihood that a hazardous event will occur within the next 25 years.

Vulnerability: An adjective description (High, Medium, or Low) of the potential impact a hazard could have on the District. It considers the students, teachers, administrators, school facilities, and educational services at risk relative to the entire District.

- High: The entire District is uniformly exposed to the effects of a hazard of potentially great magnitude. In a worse case scenario, there could be a disaster of major to catastrophic proportions.
- Medium: The entire District is exposed to the effects of a hazard of moderate influence; or the entire District is exposed to the effects of a hazard of moderate influence, but not all to the same degree; or An important segment of district is exposed to the effects of a hazard. In a worse case scenario there could be a disaster of moderate to major, though not catastrophic, proportions.
- Low: A limited area or segment of the District is exposed to the effects of a hazard. In a worse case scenario, there could be a disaster of minor to moderate proportions.

Risk Rating: An adjective description (High, Medium, or Low) of the overall threat posed by a hazard over the next 25 years. It is a subjective estimate of the combination of probability of occurrence and vulnerability.

- High: There is strong potential for a disaster of major proportions during the next 25 years; or History suggests the occurrence of multiple disasters of moderate proportions during the next 25 years.
- Medium: There is moderate potential for a disaster of less than major proportions during the next 25 years.
- Low: There is little potential for a disaster during the next 25 years.



Modified from the original created by Southern California Earthquake Center

Figure 1. Lines of equal probability, in percent, of earthquake-caused earth movement capable of significant damage in the next 30 years; these lines represent a measure of risk.

Hazard Identification

Based on the Los Angeles County, City of Pomona and other local jurisdictional ***Hazard Identification and Vulnerability Analysis*** (HIVA) reports, the following natural hazards have been identified as those most likely to occur in the City of Pomona:

Earthquakes

Although most major population centers in California are in seismically active areas, no earthquake in the past few decades has approached the maximum anticipated magnitudes. The principal earthquake hazard is the damage or collapse of buildings or of the infrastructure. The USGS, in cooperation with the California Department of Conservation's Division of Mines and Geology (CDMG), the California Institute of Technology, and the Southern California Earthquake Center is collecting ground-motion data to produce regional risk-assessment maps that provide estimates of the probability of significant ground movement (fig. 1). These maps are used by Federal, State, and local agencies as a basis for building codes and land-use zoning that can reduce loss of life and property.

Ground Shaking and Liquefaction

Ground shaking is the motion felt on the earth's surface caused by seismic waves generated by the earthquake. It is the primary cause of earthquake damage. The strength of ground shaking depends on the magnitude of the earthquake, the type of fault, and distance from the epicenter. Buildings on poorly consolidated and thick soils (such as alluvium) will typically see more damage than buildings on consolidated soils and bedrock.

Liquefaction is the phenomenon that occurs when ground shaking causes loose soils to lose strength and act like viscous fluid. Liquefaction causes two types of ground failure: lateral spread and loss of bearing strength. Lateral spreads develop upon gentle slopes and entail the sidelong movement of large masses of soil as an underlying layer liquefies. Loss of bearing strength results when the soil supporting the structures liquefies. This can cause structures to tip and topple.

Floods

Floods are a perennial concern for much of California, and flood forecasting is an essential part of flood management. The ability to predict flood frequency and magnitude depends on long-term, continuous records at many widespread sites. The USGS, in cooperation with Federal, State, and local water agencies, operates or reviews data for about 1,000 surface-water stations throughout California. Data collected are used by those water agencies to design measurable, effective, and economically sound programs and practices for flood protection. Strategically located stream-flow gauging stations equipped with automatic recording instruments are connected to computerized flood-warning systems. Water levels, precipitation, and other data can be accessed by computer from anywhere.

Landslides and Mudflows

Landslides and mudflows are common in California because of active mountain-building processes, rock characteristics, earthquakes, and periodic intense storms. Landslides vary greatly in size and composition: from a thin mass of soil a few yards wide to deep-seated bedrock slides miles across. The travel rate of a landslide can range from a few inches per month to many feet per second depending on the slope, type of materials, and moisture content.

The identification of areas that are likely to produce landslides in conjunction with earthquakes or severe storms enables the public, urban planners, and the private sector to address these conditions as part of any future development.

By using earthquake information and geologic data bases, USGS scientists, in cooperation with the CDMG and the private sector, have created a computer-generated landslide location map of the Los Angeles area. They are now working on landslide-hazard maps that show the slopes most likely to fail in earthquakes.

Tsunamis

Tsunamis (also known as seismic sea waves mistakenly called "tidal waves") are a series of enormous waves created by an underwater disturbance such as an earthquake. A tsunami can move hundreds of miles per hour in the open ocean and smash into land with waves as high as 100 feet or more, although most waves are less than 18 feet high.

From the area where the tsunami originates, waves travel outward in all directions much like the ripples caused by throwing a rock into a pond. In deep water the tsunami wave is not noticeable. Once the wave approaches the shore it builds in height. All tsunamis are potentially dangerous, even though they may not damage every coastline they strike. A tsunami can strike anywhere along most of the U.S. coastline. The most destructive tsunamis have occurred along the coasts of California, Oregon, Washington, Alaska and Hawaii.

Tsunamis are most often generated by earthquake-induced movement of the ocean floor. Landslides, volcanic eruptions, and even meteorites can also generate tsunamis. If a major earthquake or landslide occurs close to shore, the first wave in a series could reach the beach in a few minutes, even before a warning is issued. Areas are at greater risk if less than 25 feet above sea level and within a mile of the shoreline. Drowning is the most common cause of death associated with a tsunami. Tsunami waves and the receding water are very destructive to structures in the run-up zone. Other hazards include flooding, contamination of drinking water and fires from gas lines or ruptured tanks.

Volcano Hazards

A volcano is a mountain connected to a reservoir of molten rock below the surface of the earth. They are built up by an accumulation of their own eruptive products, lava and ash. USGS scientists are closely monitoring California's active and potentially active volcanoes.

Mount Shasta and Lassen Peak have been active historically and there are several geologically young volcanic systems, such as Medicine Lake Volcano in northern California and Long Valley Caldera on the eastern Sierra Nevada front. USGS scientists are updating hazards assessments of Lassen Peak, Mount Shasta, and Medicine Lake Volcanoes. Magma intrusion and seismic activity at Long Valley Caldera have been closely monitored by the USGS as part of the Volcano Hazards Program since 1978.

Each episode of volcanic activity in the past 5,000 years from along the Mono-Inyo Craters volcanic chain has erupted less than 1 km^3 of magma. Based on the known aerial extent of the rock deposits formed by these small- to moderate-sized eruptions and experience gained from historical eruptions of similar magnitude, scientists have identified areas that are likely to be affected by similar activity in the future. Since May 1989, USGS scientists have detected and are studying the increased emission of carbon dioxide gas of volcanic origin in the southwestern part of the Caldera.

Wild fires

Wildfires are common in California. They are a natural part of the environment here. The climate in much of California is a Mediterranean type of climate, which is characterized by mild rainy winters and warm (or hot) dry summers. Vegetation grows during the winter and spring, and dries out during the long dry summers. The greater the growth of vegetation in the wet season, the more fuel there is to burn. In the parts of California covered by chaparral vegetation, fire is always a danger, because chaparral plants are often very flammable.

This plant community is in equilibrium with a regime of relatively frequent fires, and fire can actually be beneficial to many of the plant species. Fire releases nutrients from dead plant material back to the soil, allowing new growth the following season. Many chaparral species contain volatile oils that allow them to burn very well, and many of these species are adapted to re-sprout after a fire, or seed in to a burned area.

Even parts of California that are not in the Mediterranean climate zone can be subject to fire exposures because a long drought period can dry out the vegetation sufficiently for it to burn. Fires have always occurred naturally, set by lightning. The lightning-set fires in the past may have been more frequent (because they were not suppressed) but probably covered smaller areas, and were not as hot and devastating as some fires now, because the high frequency meant that there was less chance for a big load of fuel to build up. If we suppress fires for many years, there will be a buildup of fuel as plants grow larger, and dead wood and other plant material accumulate. Eventually, perhaps at the end of a hot, dry summer, something will set off a fire, and, weather conditions permitting, it can potentially cause a very significant fire because of the accumulated fuel load.

Fire weather in California is hot and dry and windy. The right conditions for dangerous fires occur when hot dry winds blow towards the coast from inland areas. The winds are the result of high pressure systems over the Great Basin region, pushing the air outwards. As the warm air flows down from higher elevations, it warms up and dries out still more. Such strong, dry winds can rapidly desiccate the vegetation, and can provide the perfect weather conditions for a devastating fire. Following a fire, the burned areas often experience flooding, excessive soil erosion, and landslides, because the bare slopes cannot hold the soil as well as a vegetated slope would.

Dam Inundation

The grater risk of injury and property damage to Pomona is the hazard of flooding due to dam inundation, although the likelihood of occurrence is vastly lower. Several dams are located in the immediate vicinity of Pomona, and two of them have the potential to inundate portions of the City in the event of dam failure.

Hazardous Material

In the event of a natural hazard, hazardous materials could potentially harm school students and residents by exposing them to chemicals that may be poisonous, irritating, suffocating, or that can cause burns or other injury. The severity of hazardous materials impacts depends on many factors such as amount of chemical released, location, and rate and direction of dispersion.

Identifying vulnerable toxic sites and preventing hazardous materials spills before they occur is fundamental to mitigating the myriad unpredictable impacts that such spills may have on the District and community. This type of event could expose neighborhoods near railway tracks in Pomona to potential hazards due to rail car derailment and depending on the content of rail cars, a potential for exposure to substances or materials being transported.

Utilities

Underground utilities may be subject to rupture during an earthquake, creating the potential for fire and explosion. The potential hazard can affect directly or indirectly the school District, its students, teachers, administrators and local community.

Terrorism

Terrorism is the force or violence against persons or property violating the criminal laws of the United States for purposes of intimidation, coercion, or ransom. Terrorists often use threats to create fear among the public; try to convince citizens that their government is powerless to prevent terrorism; and efforts to get publicity for a cause.

A terrorist attack can take several forms depending on the technological means available to the terrorist, the nature of the political issue motivating the attack, the points of weakness of terrorist targets. Bombings are the most frequently used terrorist method in the United States. Other possibilities include attacks upon transportation facilities, utilities, or other public services, or an incident involving chemical or biological agents.

Transportation

There are five major freeways serving Pomona that provide primary regional access to and from the City. The San Bernardino Freeway (Interstate 10) and the Pomona Freeway (State Route 60) provide east-west access to Pomona from Santa Monica and Los Angeles to the west, and Ontario, San Bernardino and Riverside to the east. The Foothill Freeway (Interstate 210) provides an additional east-west connection to the north of Pomona, extending west to Pasadena and the San Fernando Valley. The Corona Expressway (State Route 71) and Orange Freeway (State Route 57) provide connections with Corona and Orange County.

In addition to the five freeways passing trough the City, Pomona has an extensive street network. Pomona's street network is primarily based on a grid, with several major north-south and east-west roadways interlaced with a system of intersecting minor streets. There are several bridges that are part of the freeway system that can effect the city's North/South traffic movement if damaged.

Three railroads cross Pomona. The railroads run generally east-west. These railroads carry freight and cargo, as well as passengers on the Metro link line. The Southern Pacific Railroad, located near Holt Ave. and Mission Blvd., bisects the center of the city and could be a significant impediment to north-south transportation if a train derailed within the City.

Each of the highways, freeways, and railroads play a critical role and could affect the District's delivery of student services. A hazard that rendered these routes "incapacitated" would pose a significant challenge to the City in recovering from the event as well as for the Pomona Unified School District.

Airports

The City of Pomona is surrounded by the following airports:

Brackett Airfield - Small planes field located in the North-West area of Pomona that border with the City of La Verne. The landings of the planes are from East to West over the Cities of Claremont and Pomona.

Ontario International Airport – Major airport located 12 miles East of the City of Pomona. The city is in the take-off path traffic. The airport is located in the City of Ontario.

Cable Airfield – Small planes field located north –East area in the City of Upland.

Each of these airfields can create a major challenge in the event of an air disaster. There was a recorded fatality at the Cable airfield last year. Budget resources and time constraints did not allow for a full analysis of every potential hazard identified above.

The natural hazards of earthquake, flood, landslides, wild fires and wind storm have been fully analyzed in this plan because they fell into the following criteria:

1) There is a high probability of the natural hazard occurring in the City of Pomona and the surrounding communities within the next 25 years.
2) There is the potential for significant damage to District buildings.
3) There is the potential for loss of life.

According to the City of Pomona Hazard Identification and Vulnerability Analysis the following natural hazards meet the above criteria:

Hazard	City of Pomona HIVA Summary Assessment
Earthquake	High Probability of Occurrence High Vulnerability High Risk
Flood	Moderate Probability of Occurrence Moderate Vulnerability Low Risk
Landslide	Moderate Probability of Occurrence Moderate Vulnerability Low Risk
Wild Fires	High Probability of Occurrence High Vulnerability Moderate Risk
Wind Storm	Moderate Probability of Occurrence Moderate Vulnerability Low Risk

Overview of Risk Assessment Data

The following pages contain information useful in assessing the risk that the District faces in the City of Pomona from the hazards identified above. Hazard specific information includes a description of the hazards, their previous occurrences and historical impacts on the area. An explanation of the methodology used to determine the inventory, forecast, and dollar value of vulnerable assets concludes the risk assessment analysis.

The descriptions of natural hazards, previous occurrences, and past impacts to the Pomona area, are drawn primarily from local jurisdictional HIVAs, and state and federal hazard related documents. This information is not, nor is it intended to be, a rigorous or scientific analysis. It does provide a basic level of knowledge through limited analysis of the hazards posing the greatest risk to the City of Pomona and the Pomona Unified School District.

EARTHQUAKE HAZARD DESCRIPTION

The most significant natural hazard facing Pomona is the likelihood of a damaging earthquake. Pomona is located in a seismically active region of Southern California, with several damaging earthquakes occurring in the past twenty years, such as Northridge (Magnitude 6.8) and Hector Mine (Magnitude 7.1). Table 3-1 gives details on the major historic earthquakes that have affected Southern California.

The City of Pomona has never declared a state of emergency due to an earthquake. However, active fault lines cross Pomona, and the City will also be greatly affected by an earthquake on one of the nearby regional fault lines or in neighboring communities.

In a 1998 seismic evaluation of Pomona conducted by USGS, a model of the predominant earthquake expected in the City produced a Magnitude 7.0 event. This model was conducted with the assumption that the entire City has alluvial site conditions, a type of soil that particularly susceptible to movement during an earthquake. Although Pomona is largely located on an alluvial fan, there are portions of the City situated on more stable bedrock or firm rock conditions. Therefore, this analysis may overestimate the amount of ground movement that may actually occur, but it provides a scientific basis to assume that such a powerful earthquake could occur in Pomona and to prepare it to the fullest extent possible.

Table 3-1: Southern California Region

Earthquakes with a Magnitude 5.0 or Grater			
1769	Los Angeles Basin	1916	Tejon Pass Region
1800	San Diego Region	1918	San Jacinto
1812	Wrightwood	1923	San Bernardino Region
1812	Santa Barbara Channel	1925	Santa Barbara
1827	Los Angeles Region	1933	Long Beach
1855	Los Angeles Region	1941	Carpentaria
1857	Great Fort Tejon Earthquake	1952	Kern County
1858	San Bernardino Region	1954	W. of Wheeler Ridge
1862	San Diego Region	1971	San Fernando
1892	San Jacinto or Elsinore Fault	1973	Point Mugu
1893	Pico Canyon	1986	North Palm Spring
1894	Lytle Creek Region	1987	Whittier Narrows
1894	East of San Diego	1992	Landers
1899	San Jacinto and Hemet	1992	Big Bear
1907	San Bernardino	1994	Northridge
1910	Glen Ivy Hot Springs	1999	Hector Mine
		2003	San Simeon

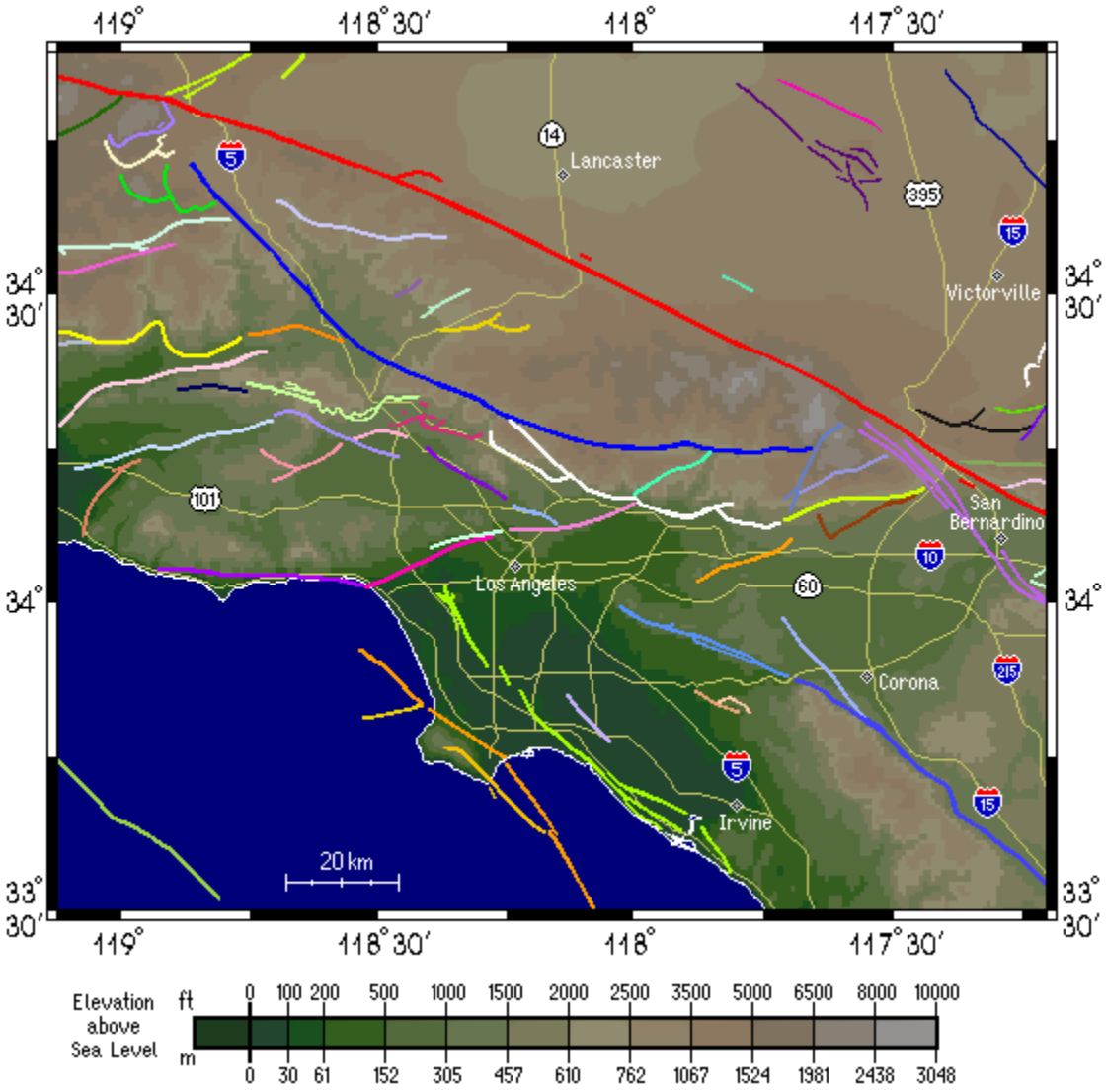
Source:http://geology.about.com/gi/dynamic/offsite.htm?site=http%3A%2Fpasadena.wr.usgs.gov%2Finfo%2Fcahist eqs.html

Several hazards can be produced by a single earthquake event. Ground shaking, landslides, and liquefaction are the specific hazards associated with earthquakes. The severity of these hazards depends on several factors, including soil and slope conditions, proximity to the fault, earthquake

magnitude, and other variables. This section discusses each of the dominant seismic hazards and assesses their relationship to the critical facilities and vulnerabilities in Pomona.

Faults in Southern California

There are numerous faults in Southern California area that are categorized as active, potentially active, and inactive. A fault is classified as active if it has either moved during the Holocene time (during the last 1,000 years) or is included as an Alquist-Priolo Earthquake Fault zone (as established by the California Division of Mines and Geology). A fault is classified as potentially active if it has experienced movement within Quaternary time (during the last 1.8 million years). Faults have not moved in the last 1.8 million years are generally considered inactive. Surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts.



Regional Faults

Earthquakes from several active and potentially active faults in Southern California region could affect in the future the City of Pomona and the District; although no known regional faults directly traverse the city. A summary of the nearest active faults to the City of Pomona and the District are presented below.

- *San Andreas Fault Zone*. Located approximately 20 miles to the northeast of the City, this fault zone extends from the Gulf of California northward to the Cape Mendocino area where it continues northward along the ocean floor. The length of the fault and its active seismic history indicated that it has a very high potential for large-scale movement in the near future (Magnitude 8.0+ on Richter scale), and should be considered important in land use planning for most cities in California.

- *Sierra Madre Fault System*. Located approximately one mile north of the City, at the base of the San Gabriel Mountains. It consists of a complex system of dips and slips and has a left lateral reverse component. The Sierra Madre fault system has been responsible for uplift of San Gabriel Mountains by faulting in response to tectonic compression. In many places, the faults have placed basement bedrock over alluvium where they dip northerly below the steep topographic front of the San Gabriel Mountains.

- *W*hittier-*Elsinore Fault Zone*. This fault zone is located along the southern base of the Puente Hills, approximately 9 miles to the southwest of the City. This northwest-trending fault trends from Whittier Narrows southeast across the Santa Ana River, past Lake Elsinore, into western Imperial County and then into Mexico. This fault zone has the expected maximum capability of a magnitude 6.6 earthquake.

- *San Gabriel Fault.* Labeled as potentially active, this fault is located approximately 20 miles northwest of the City. This fault extends from Frazier Park to Mount Baldy Village, a distance approximately 84 miles. Because of its length and its ancestral relationship with the San Andres Fault System, its potential future activity must be realized. Due to the length of its surface trace, the San Gabriel Fault is believed capable of generating a magnitude 7.8 earthquake.

- *Verdugo Fault*. Located approximately 22 miles west of the City, this potentially active fault bounds the south flank of the Verdugo Mountains, and appears to merge with the Eagle Rock-San Rafael Fault System in the vicinity of the Verdugo Wash. Low magnitude earthquakes (less than 3.0) which have been attributed to activity along the Verdugo Fault are occasionally recorded in the Burbank-Glendale are. No direct evidence of ground displacement has been observed as associated with these low-magnitude earthquakes. The Verdugo Fault has a high potential for future activity and is capable of generating a Magnitude 6.4 earthquake.

- *Norwalk Fault*. Located approximately 25 miles southwest of the City, this fault strikes 65 to 85 degrees to the northwest and dips steeply to the northeast. The fault is approximately 16 miles long and has an accurate trace between Buena Park and Tustin. Micro seismic activity along the Norwalk Fault is high and it may be capable of generating a Magnitude 6.3 earthquake.

- *Santa Monica Fault.* This fault is located approximately 25 miles west of the City. No detailed information is available on the exact location of this southwest-northeast trending

fault at the ground surface (fault trace), or on its geometric orientation. This fault, the Malibu Coast Fault, and the Raymond Fault belong to one large fault system. Classified as a potentially active fault, this fault could generate a moderate seismic event (Magnitude 6.6).

- *San Fernando Fault Zone*. This fault is located approximately 30 miles northwest of the City. Generally, fault segments are east-west trending thrust faults with associated left lateral movement.

- *Newport-Inglewood Fault Zone*. Located approximately 35 miles southwest of the City, this fault zone could generate a 7.0+ Magnitude earthquake within the next 50 to 100 years.

Local Faults

In addition to the regional faults, there are several local faults located within the city that are considered potentially active. No recent seismic activity has been recorded along these faults in the last 10,000 years. However, a major earthquake occurring along any of these faults would be capable of generating seismic hazards and strong ground shaking effects within the city. These local faults include the Indian Hill, Chino, Central Avenue, and San Jose Faults.

- *Indian Hill Fault*. This fault is located along the northern section of the city and runs in an east/west direction for approximately 9 kilometers. It is believed to be a single strand and is considered potentially active. This fault serves as a barrier to groundwater movement and offsets soils of Late Pleistocene age, which is the reason it is considered potentially active.

- *Chino Fault*. Considered to be a part of the Whittier-Elsinore fault system, this fault borders the Puente Hills to the northeast and is buried along most of its length. It is approximately 28 kilometers long from the Santa Ana Mountains to the City of Pomona in a northwest-southeast direction, as it joins the San Jose Fault, near the I-10. Based on geomorphic evidence, it does not appear to have as great a potential for seismic activity as does the Whittier-Elsinore fault. The fault has an estimated slip rate of 0.2 mm/year. It should be noted that some geologists have questioned whether the Chino fault is in reality an earthquake fault, since recent evidence indicates that it is not a fault but the contact point between bedrock and less consolidated alluvium.

- *Central Avenue Fault*. Considered a potentially active fault and located in the City of Chino, this fault extends into the southern portion of the City of Pomona. This fault is approximately 8 kilometers long and believed to be a single strand that is sub parallel to the Chino fault. The fault exhibits displacement on Quaternary and Holocene age deposits but has no surface expression.

- *San Jose Fault*. This Fault is classified as potentially active and is located in the San Jose Hills, on the western edge of the City. The fault is approximately 13 kilometer long and runs in a northeast/southwest direction, approximately parallel to the I-10 freeway. The fault has an 85 to 85 degree upward dip and has a reverse movement with the north side up. The fault displaces upper Miocene sedimentary and volcanic rocks as much as 2,700 feet vertically, with a 100- meter vertical offset in older subsurface alluvium.

Of the local faults, the probability of earthquake activity is considered the highest along the San Jose Fault, with possible ground rupture. Neither the Chino Fault, Central Avenue Fault, nor the Indian Hills Fault have a high probability of seismic activity, and their precise location is currently

not well defined. None of these faults in Pomona has been placed in an Earthquake Fault Zone. Thus, no fault rupture hazard is anticipated along the fault traces that pass through the City.

Ground Shaking

Ground shaking is the motion felt on the earth's surface caused by seismic waves generated by the earthquake. It is the primary cause of earthquake damage. The strength of ground shaking depends on the magnitude of the earthquake, the type of fault, and distance from the epicenter. Buildings on poorly consolidated and thick soils (such as alluvium) will typically see more damage than buildings on consolidated soils and bedrock.

The entire City of Pomona is vulnerable to strong ground shaking during an earthquake. The shaded contour lines in indicate relative intensity of the shaking throughout the City. These contours represent generalized depictions of peak ground acceleration, and were developed by the USGS.

Probabilistic Seismic Hazards Mapping
Ground Motion

Longitude	-117.745
Latitude	34.044

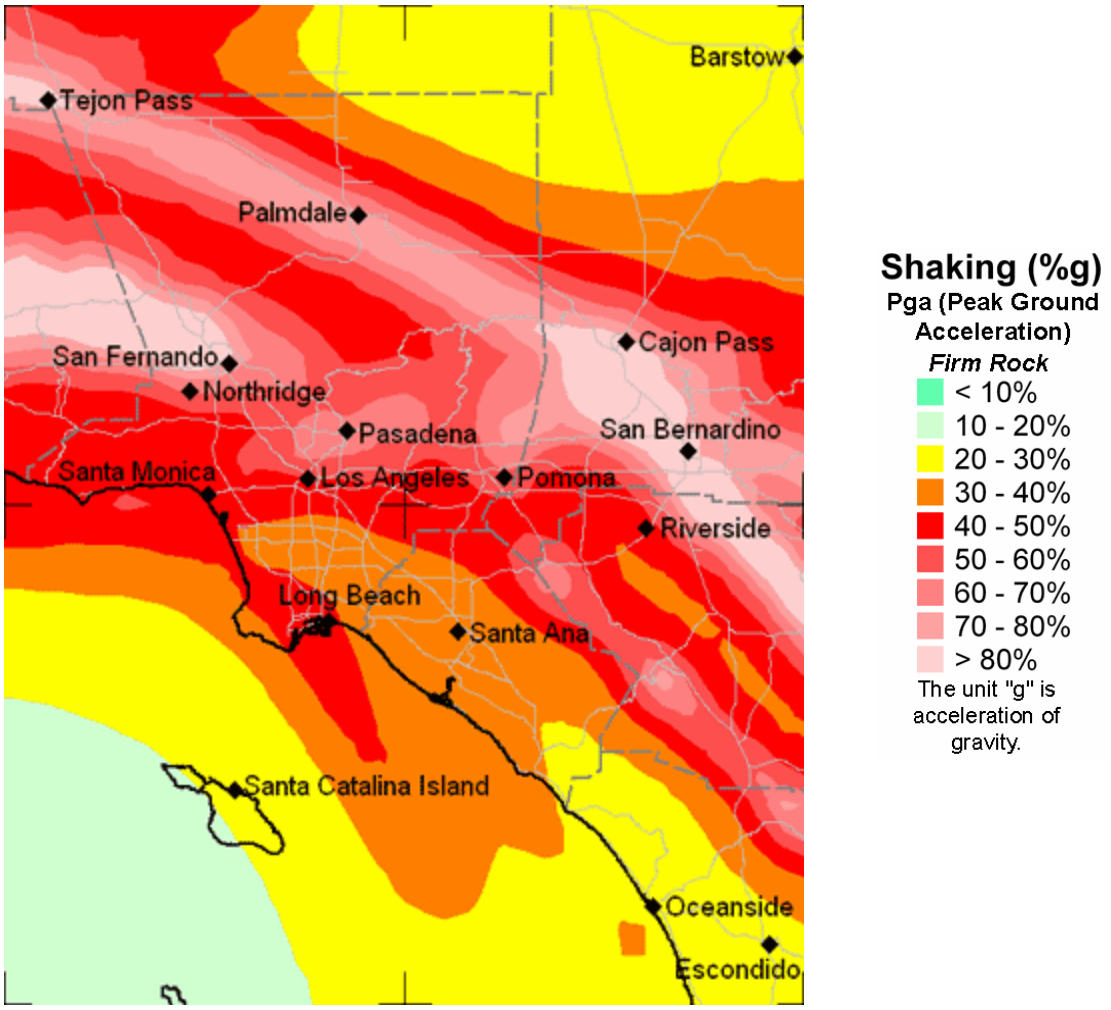
User Selected Site

Ground Motions for User Selected Site

Ground motions (10% probability of being exceeded in 50 years) are expressed as a fraction of the acceleration due to gravity (g). Three values of ground motion are shown, peak ground acceleration (Pga), spectral acceleration (Sa) at short (0.2 second) and moderately long (1.0 second) periods. Ground motion values are also modified by the local site soil conditions. Each ground motion value is shown for 3 different site conditions: firm rock (conditions on the boundary between site categories B and C as defined by the building code), soft rock (site category C) and alluvium (site category D).

Ground Motion	Firm Rock	Soft Rock	Alluvium
Pga	0.542	0.542	0.542
Sa 0.2 sec	1.281	1.281	1.281
Sa 1.0 sec	0.476	0.57	0.648

NEHRP Soil Corrections were used to calculate Soft Rock and Alluvium. Ground Motion values were interpolated from a grid (0.05 degree spacing) of calculated values. Interpolated ground motion may not equal values calculated for a specific site, therefore these values are not intended for design or analysis.



Ground shaking intensity in the City increases from a southwest to northeast direction. This model assumes that the entire City is underlain by alluvial soil, which is less resistant to shaking than other soil types. Although the majority of Pomona is located on alluvial soils, transported from the San Gabriel Mountains the north, portions are located on more stable soil conditions. The San Jose and Puente Hills are situated on bedrock, and consequently would experience less ground movement than is illustrated here.

Although the probability of the District facilities are subject to damage due to ground shaking, the most intense ground shaking is expected to take place in the northern portion of Pomona, approximately North of La Verne Ave. Several public and private schools are located here. Barfield Elementary School, Harrison Elementary School, Palomares Middle School, and Pomona High School are located in this identified area. All school district facilities in this area meet compliance requirements for building of public schools.

The City of Pomona run the FEMA - HAZUS-MH: Earthquake Event Report for Scenario: 100 year M7 and found that according to the outcome the District would remain operational after a Magnitude 7. See Appendix G

Earthquake-Induced Landslides

Landslides are secondary earthquake hazards that can occur from ground shaking. They can destroy the roads, buildings, utilities, and other critical facilities necessary to respond and recover from an earthquake.

The Northridge earthquake of 1994 provides an example of the serious and damaging effects of landslides. As a result of the magnitude 6.7 earthquake more than 11,000 landslides occurred over an area of almost 400 square miles. The landslides destroyed dozens of homes, blocked roads, and damaged oil-filed infrastructure. They indirectly caused deaths from Coccidioidomycosis, (valley fever) the spore of which was released from the soil during landslide activity and blown towards populated coastal areas.

Many communities in Southern California have a high likelihood of encountering such risks, especially in areas with steep slopes. In Pomona, the risk of damage due to landslides is confined to parts of Phillips Ranch and Ganesha Hills. These areas are delineated by the USGS, and depicted in map 2. Although some of the susceptible areas have residential development, most of them are located in designated open space.

In the landslide-prone areas that are developed, the risk of a damaging earth flow is even greater. Although landslides are natural geological process in the hills around Pomona, residential developments in these areas exacerbate the risk of landslide hazards. Grading for road construction and development can increase slope steepness and contribute to the speed and severity of landslides. Grading and construction can also decrease the stability of a hill slope by adding weight to it top, removing support at the base of the slope, and increasing water content. Other human activities effecting landslides include: excavation, drainage and groundwater alterations, and changes in vegetation.

Due to the limited area in Pomona that is at risk for landslides, there are few critical or vulnerable structures in the landslide zones. There is one public school, Diamond Ranch Senior High, located within a risk area. The district spent $13 million dollars in site preparation and other mitigation prior to building. The high school was designed and constructed specifically considering its location and meeting all requirements and standards for public school construction. Overall, the main potential damage as a result of landslide incidents would be to residential developments in the hills, such as Phillips Ranch.

The City of Pomona has in place a Zoning Ordinance that addresses development on steep slopes. The Zoning Ordinance Subsection 58010 allows for building design to accommodate the site landscaping to protect against erosion, drainage, and controls for excavations and grading.

Liquefaction

The phenomenon of liquefaction occurs when ground shaking causes wet granular soils to change from a solid state to a liquid state. This results in the loss of soil strength and the soil's ability to support weight. Building and their occupants are at risk when the ground can no longer support these structures. Pomona is one of many communities in Southern California that is built on an ancient river bottom and has sandy soil. In some cases this ground may be subject to liquefaction, depending on the depth of the water table.

The California Geological Survey identifies and maps areas susceptible to liquefaction, based on groundwater levels and geological materials. Pomona has 4,025 acres – or 27 percent of the City

area – that fall within these zones and are susceptible to liquefaction. These areas generally occur at the base of the hills in the southern and western portions of the City.

California Earthquake Mitigation Legislation

California is painfully aware of the threats it faces from earthquakes. Dating back to the 19th century, Californians have been killed, injured, and lost property as a result of earthquakes. As the State's population continues to grow, and urban areas become even more densely built up, the risk will continue to increase. For decades the Legislature has passed laws to strengthen the built environment and protect the citizens. Table 3-2 provides a sampling of some of the 200 plus laws in the State's codes.

The California Seismic Safety Commission (CSSC) prepared the California Earthquake Loss Reduction Plan to fulfill the requirements of the California Earthquake Hazards Reduction Act of 1986 (Government Code §8870, et seq.). Numerous organizations and individuals participated in the development of the plan, which reflects the state of the art in seismic hazard mitigation techniques and is used as a tool to evaluate potential initiatives to reduce the impact of future earthquakes.

Table 3-2: Partial List of the Over 200 California Laws on Earthquake Safety

Government Code Section 8870-8870.95	Creates Seismic Safety Commission.
Government Code Section 8876.1-8876.10	Established the California Center for Earthquake Engineering Research.
Public Resources Code Section 2800-2804.6	Authorized a prototype earthquake prediction system along the central San Andreas fault near the City of Parkfield.
Public Resources Code Section 2810-2815	Continued the Southern California Earthquake Preparedness Project and the Bay Area Regional Earthquake Preparedness Project.
Health and Safety Code Section 16100-16110	The Seismic Safety Commission and State Architect will develop a state policy on acceptable levels of earthquake risk for new and existing state-owned buildings.
Government Code Section 8871-8871.5	Established the California Earthquake Hazards Reduction Act of 1986.
Health and Safety Code Section 130000-130025	Defined earthquake performance standards for hospitals.
Public Resources Code Section 2805-2808	Established the California Earthquake Education Project.
Government Code Section 8899.10-8899.16	Established the Earthquake Research Evaluation Conference.
Public Resources Code Section 2621-2630 2621.	Established the Alquist-Priolo Earthquake Fault Zoning Act.
Government Code Section 8878.50-8878.52 8878.50.	Created the Earthquake Safety and Public Buildings Rehabilitation Bond Act of 1990.
Education Code Section 35295-35297 35295.	Established emergency procedure systems in kindergarten through grade 12 in all the public or private schools.
Health and Safety Code Section 19160-19169	Established standards for seismic retrofitting of unreinforced masonry buildings.

Health and Safety Code Section 1596.80-1596.879	Required all child day care facilities to include an Earthquake Preparedness Checklist as an attachment to their disaster plan.
Source: http://www.leginfo.ca.gov/calaw.html	

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides.[i] The State Department of Conservation operates the Seismic Mapping Program for California. Extensive information is available at their website: http://gmw.consrv.ca.gov/shmp/index.htm

Aside from above mentioned codes, the City of Pomona Department of Building and Safety enforces codes pertaining to earthquake hazards. The latest earthquake codes were adopted in 2002. These codes included updated seismic safety standards. The City controls land use and development through regulations to reduce seismic risk in areas known to have natural hazards.

The following sections of the CBC (Based on the 1997 Uniform Building Code) address the earthquake hazard:

- 1605.1: Distribution of Horizontal Sheer;
- 1605.2: Stability against Overturning
- 1626: Seismic;
- 1605.3: Anchorage;
- 1610: Earthquake Loads
- 1632, 1633, 1649, 1650, 1651, 1652 (Volume2) deal with specific earthquake hazards.

The City of Pomona Planning Department enforces the zoning and land regulations related to earthquake hazards. The city reduce unacceptable levels of seismic risk by controlling land use and building design in know fault zones and areas were soil may fail due to seismic activity.

The City of Pomona requires a ” Development plan” on all projects that: 1) Require a grading permit, 2) Significantly alters the site drainage: or 3) Alters the traffic approach or volume to the site. A Planning Commission Resolution has to be approved prior to the issuance of building or public improvements permits.

FLOOD HAZARD DESCRIPTION

The risk of disastrous flooding in Pomona is relatively small, when compared to the potential for earthquake or wildfire damage to the City. However, the potential for a major flood event still exists within Pomona and is an important hazard to be addressed in the plan. Potential flood events can be categorized by source: storm related and dam inundation.

Storm Related Flooding

As part of its statutory responsibilities to carry out the National Flood Insurance Program, the Federal Emergency Management Agency (FEMA) has mapped most of the flood risk areas with in the United States. Most communities with a one percent chance of a flood occurring in any given year (100-year flood) have a floodway depicted on a Flood Insurance Rate Map (FIRM). However, according to FEMA, Pomona is designated as Flood Zone D, which is an area with "undetermined possible flood hazards".

The last two major flooding incidents in Pomona occurred in 1914 and 1938, when heavy rains caused massive flooding and in the San Antonio floodplain, which extends into the easternmost portion of Pomona. As a result, the city developed several miles of large flood control channels, sufficient in size to provide protection from mayor floods, and an extensive network of local storm drains.

Nevertheless, members of the community have indicated that heavy rainfall results in flooded underpasses around Interstate 10 (particularly Garey Avenue and White Avenue) and highly localized areas of minor flooding. This minor localized flooding may have significant adverse impact to the underpass North-South traffic flow and could impact transportation to or from school facilities.

Dam Inundation

The greater risk of injury and property damage to the City of Pomona and the District is the hazard of flooding due to dam inundation, although the likelihood of occurrence is vastly lower. Several dams are located in the immediate vicinity of Pomona, and two of them have the potential to inundate portions of the City in the event of dam failure.

San Antonio Dam

The San Antonio Dam and Reservoir is located in the northeast of the City. This dam primarily serves a major flood control channel and therefore does not store large quantities of water except during periods of heavy rain. However, when full, failure or rupture of the San Antonio Dam would release waters and result in the flooding of areas south of the dam, including eastern and northern portion of Pomona. Twenty-five District sites are located within the dam inundation zone. Approximately 22,000 residences are located within the same area of inundation.

In total, the areas at risk to inundation equal 48 percent of the City (7,170 acres), and are illustrated in map 3. An Emergency Action and Notification Plan was established by the U.S. Army Corps of Engineers to protect residents and businesses of the affected area in case of a dam failure.

Live Oak Reservoir

The Live Oak Reservoir also poses a flooding threat to the City This reservoir is utilized for flood control and water conservation purposes. In the event of failure of this reservoir, northern portions of the city could be inundated. map 3 illustrates the areas that would likely be inundated in the event of dam failure.

There are no schools identified in the inundation limit of Live Oak Reservoir. The majority of the flooding would occur on grounds currently occupied by the Fairplex. However, approximately 700 residences are located within the inundation area, and would require significant emergency response in the event of dam failure.

Although the scope of damage from a possible dam breach could be widespread, the potential for such a breach is minimal. The extent and duration of flooding would vary according to the nature of the dam breach and the storage volume. As dam failure this is an unlikely event, and flooding damage due to precipitation is minimal and localized in Pomona, all of the impacts from flooding are rated low and medium.

The City of Pomona is located in the Disaster Management Area "D". The Flood Loss Statistics from NFIP is:

FLOOD LOSS STATISTICS FROM NFIP FOR THE STATE OF CALIFORNIA
(Reference source: http://www.fema.gov/nfip/10400312.shtm#06)

From January 1, 1978 to December 31, 2003

COMMUNITY NAME	TOTAL LOSSES	CLOSED LOSSES	OPEN LOSSES	CWOP LOSSES	TOTAL PAYMENTS
POMONA, CITY OF	5	4	0	1	$ 38,621.19

WILDFIRE HAZARD DESCRIPTION

Large fires have been part of the Southern California landscape for millennia. Written documents reveal that during the 19th century human settlement of southern California altered the fire regime of coastal California by increasing the fire frequency. This was an era of very limited fire suppression, and yet like today, large crown fires covering tens of thousand of acres were not uncommon. One of the largest fires in Los Angeles County (60,000 acres) occurred in 1878, and the largest fire in Orange County's history, in 1889, was over a half million acres.

Even though fires are a natural part of the ecosystem in Southern California, wildfires present a substantial hazard to life and property in communities near a wild land/urban interface. Areas built within or adjacent to hillsides and mountainous areas, with residences in close proximity to large swaths of open space represent some of these hazards. Areas in Pomona that are threatened by wildfire hazards are mapped in map 4.

As population surge and the demand for housing increases, development is pushed further into open space areas. The increase interface between urban/suburban areas and the open spaces has produced a significant increase in threats to life and property from fires and has pushed existing fire protection systems beyond original or current design and capability. Many property owners in the hazard area are not aware of the severity of the problems and threats they face. Therefore, many owners have done very little do manage or offset fire hazards or risks on their own property.

In Pomona, this interface is present in the western and southwestern hills. The California Department of Forestry and Fire Protection (CDF) maps levels of fire threat base on groundcover and topography. The increase threat of fires in the highly areas of Pomona is illustrated in map 4, with portions of the Phillips Ranch and Ganesha Hills areas obtaining a "High" and "Very High" level of fire threat. The rest of the City is considered to have a "Moderate" threat of fire as mapped by this system. While groundcover and topography are the primary indices of fire vulnerability, there are other factors that can greatly influence the severity of a fire. Dry weather conditions, the nature of the fuel sources, the presence or absence of drought conditions, and the type of development present all have impacts on fire hazards. In Pomona, the critical times of the year when wild land fires could occur are the late summer and fall months, as the Santa Ana winds deliver hot, dry desert air into the region.

In the City of Pomona, the fire hazard areas are subject to zoning ordinance and the California Building Code (CBC). The Fire Codes and zoning codes are subject to regular upgrades. Some factors that decrease a structure's resistance to fire include combustible roofing material, wood construction, structures with no defensible space, and inadequate access for fire and other emergency vehicles. All District sites comply with zoning ordinance, DSA, OPSE, Title 8, Title 24, and other state and city regulations.

The Diamond Ranch High School is located in an area identified with a potential for wildfire. However, the modern building standards used in construction (including non-combustible material) reduce the potential for damage to the site.

The risk rated as high associated with wildfires is:

Residential Development in the Wildland/Urban Interface. Residences in the wildland/urban interface are a significant risk to the City. Not only are communities in Phillip Ranch and Ganesha Hills subject to fire risk due to prevalence of open spaces, but neighborhoods on the outskirts of fire hazard areas can be impacted by fire as well.

Historic Fires in Southern California

Large fires have been part of the Southern California landscape for millennia. "Written documents reveal that during the 19th century human settlement of southern California altered the fire regime of coastal California by increasing the fire frequency. This was an era of very limited fire suppression, and yet like today, large crown fires covering tens of thousands of acres were not uncommon. One of the largest fires in Los Angeles County (60,000 acres) occurred in 1878, and the largest fire in Orange County's history, in 1889, was over half a million acres."[ii]

Table 3-3. Large Historic Fires in California 1961-2003

20 Largest California Wildland Fires (Structures Destroyed)

	Fire Name	Date	County	Acres	Structures	Deaths
1	Tunnel	October 1991	Alameda	1,600	2,900	25
2	Cedar	October 2003	San Diego	273,246	2,820	14
3	Old	October 2003	San Bernardino	91,281	1,003	6
4	Jones	October 1999	Shasta	26,200	954	1
5	Paint	June 1990	Santa Barbara	4,900	641	1
6	Fountain	August 1992	Shasta	63,960	636	0
7	City of Berkeley	September 1923	Alameda	130	584	0
8	Bel Air	November 1961	Los Angeles	6,090	484	0
9	Laguna Fire	October 1993	Orange	14,437	441	0
10	Paradise	October 2003	San Diego	56,700	415	2
11	Laguna	September 1970	San Diego	175,425	382	5
12	Panorama	November 1980	San Bernardino	23,600	325	4
13	Topanga	November 1993	Los Angeles	18,000	323	3
14	49er	September 1988	Nevada	33,700	312	0
15	Simi	October 2003	Ventura	108,204	300	0
16	Sycamore	July 1977	Santa Barbara	805	234	0
17	Canyon	September 1999	Shasta	2,580	230	0
18	Kannan	October 1978	Los Angeles	25,385	224	0
19	Kinneloa	October 1993	Los Angeles	5,485	196	1
19	Grand Prix	October 2003	San Bernardino	59,448	196	0
20	Old Gulch	August 1992	Calaveras	17,386	170	0

http://www.fire.ca.gov/FireEmergencyResponse/HistoricalStatistics/PDF/20LSTRUCTURES.pdf

The 2003 Southern California Fires

The fall of 2003 marked the most destructive wildfire season in California history. In a ten-day period, 12 separate fires raged across Southern California in Los Angeles, Riverside, San Bernardino, San Diego and Ventura counties. The massive "Cedar" fire in San Diego County alone consumed of 2,800 homes and burned over a quarter of a million acres.

Table 3-4. October 2003 Firestorm Statistics

County	Fire Name	Date Began	Acres Burned	Homes Lost	Homes Damaged	Lives Lost
Riverside	Pass	10/21/03	2,397	3	7	0
Los Angeles	Padua	10/21/03	10,446	59	0	0
San Bernardino	Grand Prix	10/21/03	69,894	136	71	0
San Diego	Roblar 2	10/21/03	8,592	0	0	0
Ventura	Piru	10/23/03	63,991	8	0	0
Los Angeles	Verdale	10/24/03	8,650	1	0	0
Ventura	Simi	10/25/03	108,204	300	11	0
San Diego	Cedar	10/25/03	273,246	2,820	63	14
San Bernardino	Old	10/25/03	91,281	1,003	7	6
San Diego	Otay / Mine	10/26/03	46,000	6	11	0
Riverside	Mountain	10/26/03	10,000	61	0	0
San Diego	Paradise	10/26/03	56,700	415	15	2
Total Losses			749,401	4,812	185	22

Source: http://www.fire.ca.gov/php/fire_er_content/downloads/2003LargeFires.pdf

The 2004 Southern California Fires

The summer of 2004 marked the early destructive wildfire season in Southern California. Starting in the month of July, the Pine Fire, Foothill Fire and Crown Fire in Los Angeles County destroyed 18,026 acres, one residence, and seven outbuildings at an estimated cost of $ 10,250,000. The fires did not have any effect on the District since they were located 70 miles North –West of the area.

WINDSTORMS

Severe windstorms can pose a risk to life and property in the region by creating conditions that disrupt essential systems such as public utilities, telecommunications, and transportation routes. The most prevalent windstorm in Pomona is attributed to the Santa Ana Winds.

Santa Ana winds are generally defined as warm, dry winds that blow from the east or northeast (offshore). These regional winds typically occur from October to March, and occur below the passes and canyons of the coastal ranges of Southern California and in the Los Angeles basin.

This movement is illustrated in Figure 2. These winds often blow with exceptional speed in the Santa Ana Canyon (the canyon from which it derives its name). Forecasters at the National Weather Service offices in Oxnard and San Diego usually place speed minimums on these winds and reserve the use of "Santa Ana" for winds greater that 25 knots as they move through canyons and passes, with gusts to 50 or 60knots.

Although the Santa Ana winds themselves can have destructive impacts to trees, power lines, and utility services, the larger danger is the exacerbation of hazardous fire conditions. Severe windstorms can present a very destabilizing effect on the dry brush that covers local hillsides and urban wild land interface areas. When combined with an existing fire, the Santa Ana winds can drive the speed and reach of the flames to far greater levels than could occur with calm wind conditions.

The City of Pomona does not track damage due to windstorms. However, reports of dislodged roofs and fallen trees and power lines are common. These are not considered major widespread threats to population and property, but do involve responses from emergency service personnel.

Figure2

Fallen power lines have potential for most widespread consequences of power outages and fire. It should be noted that falling trees can occasionally cause fatalities and serious structural damage. These potential hazards are rare in occurrence as well as localized.

The California state law requires utility companies to maintain specific clearance between power lines and all vegetation.

Additional information can be found in:

California Public Resource Code Sections 4171, 4291, 4292, 4293
Title 8, Group 3: Articles 12, 13, 36, 37, 38
Title 14 Sections 1250-1258
California Public Utilities Commission General Order 95: Rule 35

Local History of Windstorm Events

While the effects of Santa Ana Winds are often overlooked, it should be noted that in 2003, two deaths in Southern California were directly related to the fierce condition. A falling tree struck one woman in San Diego.[iii] The second death occurred when a passenger in a vehicle was hit by a flying pickup truck cover launched by the Santa Ana Winds.[iv]

Table 3-5 The following Santa Ana wind events were featured in news resources during 2003:	
January 6, 2003 OC Register	"One of the strongest Santa Ana windstorms in a decade toppled 26 power poles in Orange early today, blew over a mobile derrick in Placentia, crushing two vehicles, and delayed Metro link rail service." This windstorm also knocked out power to thousands of people in northeastern Orange County.
January 8, 2003 CBSNEWS.com	"Santa Ana's roared into Southern California late Sunday, blowing over trees, trucks and power poles. Thousands of people lost power."
March 16, 2003 dailybulletin.com	Fire Officials Brace for Santa Ana Winds - - "The forest is now so dry and so many trees have died that fires, during relatively calm conditions, are running as fast and as far as they might during Santa Ana Winds. Now the Santa Ana season is here. Combine the literally tinder dry conditions with humidity in the single digits and 60-80 mph winds, and fire officials shudder."

Inventory of Assets

The Pomona Unified School District identified four natural hazards - earthquakes, floods, wild fires and wind storms. These hazards were identified through an extensive process that utilized input from the Hazard Mitigation Committee, Community input, City of Pomona and the Office of Emergency Services. The natural hazard that will affect the District directly will be earthquakes.

Earthquake Hazard Assessing Vulnerability

Summary Assessment

History suggests a high probability of occurrence of another damaging earthquake sometime the next 25 years. With the 1994 Northridge earthquake and the 2003 San Simeon earthquake fresh in the region's memory, it is important to note that they were not the largest earthquakes events possible in the both areas. Damage from other earthquakes indicates that a larger earthquake could have a catastrophic impact on Los Angeles County suggesting high vulnerability. Accordingly, earthquakes are assigned a high-risk rating.

Although map 2 shows the District in a high vulnerability area, all school sites comply with Division of the State Architect (DSA), Office of Public School Construction (OPSC), California Department of Education (CDE), and City of Pomona Building Codes with high emphasis on Earthquake Codes and Fire Codes.

Inventory of Assets and Dollar value in Hazard Area

School District Risk Analysis

Comparing the location of school district facilities to the California Geological Survey Map prepared by the Office of Emergency Services in Appendix E for the District and Probabilistic Earthquake Shaking Intensity provides a 41% to 50% gravity indicator. That result can then be cross-referenced to the HAZUS software charts to determine a building damage ratio. The District used tables from FEMA documentation 386 series to generated the information for school District facilities, the chart for Single Family Residence Loss Estimation Tables for Reinforced Masonry was used as shown:

Table 3-6 HAZUS Loss Estimation Table

Earthquake Single Family Residence Loss Estimation Tables

PGA (g)	Building Damage Ratio (%)**									
	Wood Frame Construction				Reinforced Masonry				Unreinforced Masonry	
	High*	Moderate*	Low*	Precode*	High*	Moderate*	Low*	Precode*	Low*	Precode*
0.55	11.6	16.1	30.6	36.8	11.5	27.7	43.9	53.1	45.0	55.6
0.50	10.2	14.0	26.0	31.7	9.6	22.8	36.6	46.1	38.5	46.8
0.45	8.7	11.6	21.1	27.1	8.3	19.7	31.7	40.8	34.0	41.2
0.40	6.1	7.6	13.1	16.7	6.1	12.1	18.6	25.1	22.8	28.1
0.35	4.4	6.3	10.1	12.8	4.9	8.8	15.2	20.8	18.9	23.8
0.30	2.9	3.9	7.2	9.4	3.5	6.1	11.4	16.3	15.4	19.7
0.25	2.3	3.2	4.6	6.1	2.4	3.9	8.7	12.4	10.2	14.9
0.20	1.3	1.7	2.8	3.3	1.3	2.5	6.1	9.0	6.5	9.4
0.15	0.7	1.0	1.3	1.8	0.4	1.5	2.4	4.1	3.0	4.3
0.10	0.3	0.4	0.6	0.7	0.3	0.5	0.8	1.1	1.3	2.0
0.07	0.1	0.2	0.3	0.4	0.1	0.2	0.4	0.5	0.6	1.0
0.05	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.5
0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2

PGA (g)	Loss of Function (# of Days)									
	Wood Frame Construction				Reinforced Masonry				Unreinforced Masonry	
	High*	Moderate*	Low*	Precode*	High*	Moderate*	Low*	Precode*	Low*	Precode*
0.55	40	79	195	283	61	246	430	542	459	549
0.50	31	69	159	241	51	198	365	484	399	500
0.45	23	51	119	201	44	169	318	439	356	457
0.40	14	27	68	111	24	95	184	276	238	326
0.35	9	23	47	80	18	67	153	236	201	281
0.30	4	10	30	55	14	46	117	189	161	239
0.25	3	8	17	34	9	26	91	150	104	185
0.20	2	3	9	15	4	16	58	106	64	114
0.15	1	2	3	8	1	8	24	51	26	49
0.10	0	1	1	3	1	2	7	14	10	27
0.07	0	0	1	1	0	1	2	7	6	12
0.05	0	0	0	1	0	0	1	1	1	7
0.03	0	0	0	0	0	0	0	1	1	1

* High, Moderate, Low and Precode refer to the general seismic design level

**Building Damage Ratio = Repair Cost / Replacement Value

Source: HAZUS

Cross-referencing the map to the building damage ratio chart shows a resultant value of 36.8% percent damage estimate to structures in the event of earthquake, and a corresponding estimated loss of function (or occupancy) of approximately 365 days or one year. To provide a more conservative estimate, the loss of functions estimates were further reduced to 183 days, based upon the traditional school calendar.

These values were applied to the total inventory of school district structures, and then to the appraised value of building contents. Finally, cost estimates were derived from loss of function days, determined from the chart against a school district operational budget of $355 million, based upon students served, since the majority of school district funding is student attendance driven.

The final result, of these complex financial calculations, is a potential damage estimate of $ 531,663,484.00 for damages to structures, contents, and functional loss of those facilities for approximately one operational year.

The following spreadsheets, A, B, and C, contain the detailed calculations that support the potential exposure and risk of loss for the District. The detail information can be reviewed in Appendix F.

Worksheet A:
Reflects the number of buildings, the appraised value of those structures, and the number of people at risk.

Worksheet B:
Continues the analysis by calculating the value of contents and building replacement values for each school site and the district office to determine a daily displacement cost using the FEMA allowed value of $91 per square foot for schools.

Worksheet C:
Incorporates all of the prior calculations and combines loss to structures and contents with functional loss to provide both a total cost by site and aggregate potential loss estimate of $ 531,663,484.00

SECTION IV

SECTION IV

Mitigation Goals, Objectives and Action Items

Mitigation Goals and Objectives

The goals and objectives, which guided the development of the plan, are intended to be implemented by the District as funding becomes available. Each goal statement has objectives that provide a more specific framework for actions to be taken by the District and planning partners. The objectives define actions or results that can be placed into measurable terms, and translated into specific assignments for implementation. Each mitigation action corresponds to a specific goal and objective, which that action seeks to implement.

Action Items

The action items are a listing of activities in which the District can be engaged to reduce risk. Each action item includes an estimate of the time line for implementation. Short-term action items are activities that the District may implement with existing resources and authorities within one to two years. Long-term action items may require new or additional resources or authorities, and may take between one and five years (or more) to implement.

Mitigation Goals and Objectives Framework

The goals and objectives listed here help to guide direction of future activities aimed at reducing risk and preventing loss from natural hazards. Also, serve as checkpoints organizations begin implementing mitigation action items.

I. PROTECT LIFE AND PROPERTY

GOAL 1. Reduce the potential for life loss, injury and damage to property.

Objective 1.1: Increase resilience of structures specifically focusing on critical facilities

Objective 1.2: Increase the ability of the school district to serve its community during and after hazard events through response, recovery and rebuilding.

Objective 1.3: Incorporate in the Facilities Planning process a “mitigation consideration criteria” to facilitate ongoing facilities improvement

GOAL 2. Protect Pomona Unified School District’s many historical property and value from being compromised by hazard events.

Objective 2.1: Support long-term protection of facilities by reducing the potential impact to structures from hazard events.

Objective 2.2 Implement mitigation that effectively addresses the hazard potential while considering unique an historic value.

Objective 2.3 Encourage and support the long-term and preservation of historic and architecturally significant structures.

GOAL 3. Minimize losses to existing property and reduce potential for damage to future development.

Objective 3.1 Coordinate land use to develop facilities outside exposure to specific hazards.

Objective 3.2 Continue maintenance programs, such a site inspections and trash/debris removal to reduce the exposure to abuse and vandalism attacks contributing to facility decline.

Objective 3.3 Reduce losses and repetitive damages for chronic hazard events.

II. PUBLIC AWARENESS

GOAL 4. Develop and implement education and outreach to increase public awareness of the risks associated with natural hazards.

Objective 4.1 Develop targeted educational materials to be distributed through students to reach parents and families in the school community.

Objective 4.2 Develop educational information for distribution for district employees regarding disaster preparedness.

Objective 4.3 Develop educational resources and materials to help staff and students understand the risks they may be exposed to in a hazard or disaster and how they should respond.

III. NATURAL SYSTEMS

GOAL 5. Balance natural resource management, and land use planning with natural hazard mitigation to protect life, property and the environment.

Objective 5.1 Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation functions such as maintenance of grounds including brush reduction, pruning, regular watering, consideration of landscaping such as wind-breaks.

IV. PARTNERSHIP AND IMPLEMENTATION

GOAL 6. Encourage and support leadership within the Pomona Unified School District to promote and implement hazard mitigation activities.

Objective 6.1 Strengthen communication and coordination with local stakeholder agencies.

Objective 6.2 Coordinate and integrate natural hazard mitigation activities with land acquisition and development decisions.

Objective 6.3 Research and take advantage of financial resource opportunities to fund mitigation efforts and activities.

V. EMERGENCY SERVICES

GOAL 7. Establish mitigation projects for district facilities to ensure continue operation and proper response when the district is faced with a natural hazard.

Objective 7.1 Prioritize funding and implementation for improvements needed to ensure response capabilities.

Objective 7.2 Coordinate and integrate natural hazard mitigation with disaster preparedness activities.

Objective 7.3 Continue providing services with training and equipment to address all identified hazards.

Economic Analysis of Mitigation Actions

Benefit/cost analysis and cost-effectiveness analysis are two key tools in evaluating whether or not to implement a mitigation action/project. FEMA uses a benefit/cost analysis to determine if an action/project net benefits exceed net costs. If the ratio is greater than 1, then the mitigation is worth pursuing. FEMA B/C analyses were not performed on the selection actions/projects.

The Cost-effectiveness analysis evaluates how best to spend a given amount of funds to achieve a specific goal. This type of analysis, does not necessarily measure costs and benefits in terms of dollars. Determining the economic feasibility of mitigating natural hazards can provide the District's decision – makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative actions/projects.

Natural Hazard Mitigation Plan Action Items

The mitigation plan identifies short and long-term action items developed through data collection and research, and the public participation process. Mitigation plan activities may be considered for funding through Federal and State grant programs, and when other funds are made available through the city. Action items address multi-hazard (MH) and hazard specific issues.

Coordinating Organization

The coordinating organization is the organization that is willing and able to organize resources, find appropriate funding, or oversee activity implementation, monitoring, and evaluation. For the Pomona Unified School District, the Administrative staff in Facilities Planning will along with Risk Management provide the main coordination on behalf of the institution. Additional coordinating organizations may include local, city, or regional agencies that are capable of or responsible for implementing further activities and programs.

Time line

Action items include both short and long-term activities. Each action item includes an estimate of the time line for implementation. Short-term action items are activities that may be implemented using existing resources and that are within the local jurisdictional agency authority. These items may be implemented within one to two years. Long-term action items may require new or additional resources or authorities, and may take between one and five years (or more) to implement.

Ideas for Implementation

Each action item includes ideas for implementation and potential resources, which may include federal, state and local grant programs or human resources.

Plan Goals Addressed

The plan goals addressed by each action item are included as a way to monitor and evaluate how well the mitigation plan is achieving its goals once implementation begins.

Constraints

Constraints may apply to some of the District's action items. These constraints unfortunately result from decreased or lack of state and federal funds, increased insurance costs, and a general conditions of the current California economy.

Project Evaluation Worksheets

The District has limitations on the number and cost of mitigation activities that can be completed within a given period of time. There are likely to be multiple ideas to mitigate the effects of a given hazard. Therefore; it was necessary for the committee to select the most cost- effective mitigation projects and to further prioritize them.

Hazard Action Items

Hazard action items are those activities that pertain to the hazards in the mitigation plan: earthquakes, flood, fire and wind storms. There are twelve hazard action items described below. Some of these actions may be multi hazard.

SHORT TERM ACTIVITY - ACTION # l: Alcott Annex

Ideas for Implementation:
Construct permanent structures on the existing campus allowing for increased capacity to meet enrollment demands and providing housing that meets all current requirements for student occupancy and meeting all current seismic requirements.

Integrate the goals and action items from the Pomona Unified School District Natural Hazard Mitigation Plan into new projects.

Budget funds are available for this project.

Coordinating Organization:	PUSD Facilities Planning Department
Time line:	Started September 2004
Plan Goals Addressed:	Protect Life and Property: Goal #1 Objectives 1.1, 1.2 & 1.3
Constraints:	None

SHORT TERM ACTIVITY - ACTION # 2: Develop targeted educational material for dissemination during school year.

Ideas for Implementation:
Provide parent handouts informing them about Natural Hazard Mitigation Efforts in English and Spanish distribute through students to parent population and local community.

Encourage individual and family preparedness through public education projects such as safety fairs.

Education: Develop curriculum for school programs and adult education on reducing risk and preventing loss from natural hazards.

Conduct natural hazards awareness programs in schools and community centers.

Conduct workshops for public and private sector organizations to raise awareness of mitigation activities and programs. Invite OES to participate.

Partner with OES, City of Pomona and other agencies to develop outreach materials for mitigation, preparedness, response and recovery. Interface with OES and other agencies to deliver the same massage.

Coordinating Organization:	PUSD Facilities Planning Department and Risk Management Department
Time line:	2005
Plan Goals Addressed:	Public Awareness: Goal #4 Objective 4.1
Constraints:	Limited to time available by District staff.

SHORT TERM ACTIVITY - ACTION # 3: Coordinate and integrate Natural Hazards Mitigation activities with land acquisition and development decisions.

Ideas for Implementation:
Assure that acquired land is evaluated per CEQA requirements and building or improvements meet all current requirements for public school.

Establish clear roles for participants, meeting regularly to pursue and evaluate implementation of mitigation strategies in land acquisition and development.

Monitor hazard mitigation implementation by school site through surveys and other reporting methods.

Coordinating Organization:	PUSD Facilities Planning Department
Time line:	2005-2007
Plan Goals Addressed:	Partnership and Implementation: Goal #6 Objectives 6.1 & 6.2
Constraints:	None - Budgeted into project development

SHORT TERM ACTIVITY - ACTION # 4: Coordinate and integrate natural hazard mitigation with disaster preparedness activities.

Ideas for Implementation:
Identify all organizations within Pomona Unified School District that have programs or interests in natural hazards mitigation.

Integrate Education and Training of Staff, Students and Community to include Natural Hazard Mitigation.

Coordinating Organization:	PUSD Risk Management Department
Time line:	2005- 2007
Plan Goals Addressed:	Emergency Services: Goal# 7 Objectives 7.2 & 7.3
Constraints:	Limited to time available by District staff, Cost unknown

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LONG TERM ACTIVITY - ACTION # 5: New Construction – Mission School

Ideas for Implementation:
Construct new school facility on purchased land allowing for increased capacity to meet enrollment demands and providing housing that meets all current requirements for student occupancy and meeting all current seismic requirements.

Coordinating Organization:	PUSD Facilities Planning Department
Time line:	3 Years; Phase I 2005, Phase II 2006, Phase III 2007
Plan Goals Addressed:	Protect Life and Property: Goal # 1 Objective 1.2 &1.3
Constraints:	Budgeted Funds are available for this project. Other variables may prolong the length of the project.

LONG TERM ACTIVITY - ACTION # 6: Coordinate land use; develop facilities outside of or mitigating exposure to specific hazards.

Ideas for Implementation:
Interface closely with the City of Pomona to insure that future development of District's facilities are located outside the hazards areas.

Coordinating Organization:	PUSD Facilities Planning Department
Time line:	Ongoing
Plan Goals Addressed:	Protect life and Property: Goal #3 Objectives 3.1 & 3.3
Constraints:	None

LONG TERM ACTIVITY - ACTION # 7: Maintenance Programs

Ideas for Implementation:
Continue maintenance programs, grounds maintenance, debris clean-up, to minimize hazards caused by lack of appropriate care of properties

Compliance with current building and safety codes to reduce loss to structures and injury. These projects included new safety glass for classrooms and new roofs where needed to protect against the elements.

Coordinating Organization:	PUSD Maintenance & Operations Department
Time line:	Ongoing
Plan Goals Addressed:	Protect Life and Property Goal #3 Objective 3.2
Constraints:	None

LONG TERM ACTIVITY - ACTION # 8: Develop information for distribution to District employees.

Ideas for Implementation:
Provide information to employees incorporated into Disaster Preparedness Practice Drills.

Coordinate with City of Pomona – Fire and Police Departments and OES for Practicing Drills

Coordinating Organization:	PUSD Facilities Planning Department and Risk Management Department
Time line:	2005
Plan Goals Addressed:	Public Awareness: Goal #4 Objective 4.2
Constraints:	Limited to time available from District staff, Cost unknown

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LONG TERM ACTIVITY - ACTION # 9: Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation

Ideas for Implementation:
Continue to plan and maintain landscaping consistent with land use and preservation

Develop and complete a baseline survey to gather status on each site. Repeat the survey in five years to monitor successes and failures of the natural systems program.

Coordinating Organization:	PUSD Facilities Planning Department
Time line:	Unknown
Plan Goals Addressed:	Natural Systems: Goal# 5 Objective 5.1
Constraints:	Limited to time available from District staff, Cost unknown

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LONG TERM ACTIVITY - ACTION # 10: Continue providing services with training and equipment to address all identified hazards to ensure response capability during a disaster.

Ideas for Implementation:
Establish mitigation projects for district facilities to ensure continued operation and proper response when the district is faced with a natural hazard.

Provide training to District employees to address operational response during a disaster

Coordinating Organization:	PUSD Facilities Planning Department and Risk Management Department
Time line:	2005-2007
Plan Goals Addressed:	Emergency Services: Goal # 7 Objective 7.3
Constraints:	Limited to time available from District staff, Cost Unknown

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LONG TERM ACTIVITY - ACTION # 11*:* Ganesha Village School

Ideas for Implementation:
Construct new school facility on purchased land allowing for increased capacity to meet enrollment demands and providing housing that meets all current requirements for student occupancy and meeting all current seismic requirements.

Coordinating Organization:	PUSD Facilities Planning Department
Time line:	2006-2007
Plan Goals Addressed:	Protect Life and Property: Goal #1 Objective 1.1 & 1.2
Constraints:	Cost Unknown

LONG TERM ACTIVITY - ACTION # 12: Ed Center Modernization
Ideas for Implementation:
Preservation and modernization of the Historical 1930 Education Center transition back to a school site.

Coordinating Organization:	PUSD Facilities Planning Department
Time line:	unknown
Plan Goals Addressed:	Protect Life and Property: Goal #2 Objective 2.1, 2.2 & 2.3
Constraints:	Unknown

Prioritization Process

The goal of this plan is to map a set of strategies supported by objectives underpinned by discrete and measurable actions that will advance the District's mitigation program. Because there are not resources for all activities to be done at once, because some have better change to be implemented and because timing among activities or with outside events and situations may be critical, thought needs to be given to planning and prioritizing all activities supported by this plan.

For this reason the input of the Hazard Mitigation Plan Committee, as well as that of the public, was key to discerning the kinds of things that are most important first. After the formulation of the proposed Strategies, Objectives, and Actions, committee members voted, using a 3-2-1 scale, on the relative importance of each action. Those ranked highest received the lowest numerical scores. Point totals were tallied, and the results of the average raw vote score are as follows:

Actions	Average Score
Alcott Annex	1
Mission School	1.8
Ganesha Village	3
Education Center Modernization	3
Coordinate Land Use	1.2
Maintenance Programs	1.2
Dev. Targeted Education Mat.	1
Development of Info. For District Staff	1.8
Preserve and enhance Natural Sys.	2
Coordinate Hazard. Mitigation into Land acquisition & Development Decisions	1
Coordinate Hazard Mitigation with disaster preparedness activities	1
Provide Services with Training to address all identified hazards	2

Analysis Utilization

For every proposed action, funding availability is an important aspect to consider. Many of the actions above require little in the way of direct funding, and their costs can be absorbed into operating budgets. The anchoring of bookcases and computers properly has a relatively small supply cost per unit, and a labor expense associated with the installation. Even so, it is a minor cost overall when compared to replacing structures, or time out of operation due to clean-up after a seismic event.

State capital budget request cycles run every 12 months, and these present opportunities to access funding for structures into the tens of millions of dollars. Federal grants are periodically offered for mitigation projects, as well as disaster recovery, and both these mechanisms can be employed for the actions that relate to specific, and more expensive, capital activities that require long-term improvements to existing facilities.

A key theme running through many of the proposed actions is deepening involvement with other agencies and institutions, and success in completing these actions relies partly on the willingness of those other organizations to commit the resources that will allow the cooperative improvements to be realized by each partner. With such organizations, careful groundwork must be laid that shows the commitment expected from all, but also identifies the mutual benefits to be realized. If the investment needed from those organizations can be seen in this light, achievement of these objectives becomes more easily realized.

There are a total of 12 actions recommended for the District to pursue, and the maximum length of time until the next Hazard Mitigation Plan is due for review by FEMA is five years. These facts make a strong case for dividing these projects into three groups, one group to be accomplished each 12-24 months the current plan is in effect. The ranking of the average scores of the projects, is an essential tool in determining how the groups are divided. Starting with action with average score of 1, the highest rated action is taken to form a group. Actions with lower points are rank in the lower groups. This formula results in the following three groups being formed. Group one is consider short term projects and groups 2 and 3 are consider long term projects.

Group One:	Actions 1, 7, 10, 11
Group Two	Actions 2, 5, 6, 8
Group Three	Actions 9, 12, 3, 4

Implementation Process

Once the mitigation actions are ranked on the basis of economic criteria, District's decision-makers can consider other factors, such as risk; project effectiveness; and economic, environmental, and social returns in choosing the appropriate action/project for implementation.

The Facilities Planning Department is responsible for the implementation of this plan and all mitigation actions related to building, modernization and public involvement related to such projects. The Director of Risk Management oversees this process of incorporating training and education of mitigation strategies into current disaster preparedness activities. The purpose for this assignment of duties is that the great majority of the mitigation actions are tied so closely to the facilities themselves, or to health and safety, and these positions are directly responsible for those areas at the District. When implementation occurs is a function of the priority of that action as defined by the Hazard Mitigation Plan Committee, with modifications as relevant from public opinion.

Administration Process

The Director of Facilities Planning is responsible for the administration of the implementation of this plan. Regular reports will be made to monitor the progress of implementation and the committee will decide the best method to assure continuous quality improvement in the plan as may be necessary over the period of its five-year term. These methods may consist of simple fixes for typographical errors to calling for reconvening the Hazard Mitigation Plan Committee to address large oversights in development or amendments in projects or in the plan documentation.

SECTION V

Section V

Plan Maintenance

The plan maintenance section of this document details the formal process that will ensure that the Pomona Unified School District Natural Hazards Mitigation Plan remains an active and relevant document. The plan maintenance process includes a schedule for monitoring and evaluating the plan on a regular and periodic basis and producing a plan revision every five years. This section describes how the school district will integrate public participation throughout the plan maintenance process. Finally, this section includes an explanation of how Pomona Unified School District intends to incorporate the mitigation strategies outlined in this Plan into existing planning mechanisms such as, Capital Improvement Plans, and Building and Safety Codes.

Monitoring, Evaluating, and Updating Process

Without any intervening disaster events, and until the establishment of an independent, on-going Natural Hazard Mitigation Plan Committee, the monitoring of this process will be a function of the Director of Facilities for building, modernization and facilities, and the Director of Risk Management for implementation of training and education within the exiting disaster preparedness program. Upon the establishment of a separate committee to deal with mitigation, in facilities planning, reports will be generated as to monitor progress of the plan and of the districts mitigation efforts to assure safety in the event of hazard exposures to district facilities. Within the next five years this NHMP will also be required to address potential threats related to terrorist activities against the District.

Assessment after a Significant Disaster Event

Within 60 days following a significant disaster or an emergency event impacting a portion of, or the entire District, the Director of Facilities Planning in collaboration with the Director of Risk Management may begin an analysis of the event to capture data for the purpose of continuing development of the plan. The Director of Facilities will assess direct damage to facilities and the Director of Risk Management will establish indirect damage as well as obtain from facilities or other staff or resources recovery costs. The Director of Facilities will also assess the type and extent of the damages to determine any new mitigation initiatives that should be incorporated into the plan to avoid similar losses due to future hazard events. The results of the assessment will be provided to the Steering Committee for review when considering new mitigation initiatives during the next plan update process.

Continued Public Involvement

The Pomona Unified School District Natural Hazard Mitigation Plan will remain a living document with revisions and updates occurring as needed and approved as appropriate. Public comment will continue to be sought on a regular basis, including through at least biannual advertisements in a local newspaper and the District's Web.

Many of the mitigation initiatives contain elements of public education and should be implemented as soon as funds become available for those initiatives. Continued public involvement should also be integrated into existing emergency preparedness activities and information in order to continue to educate the students, teachers, administrators and the community on the importance of managing the risk from natural hazards.

The plan will also be available for review at the District Administrative Office, and City of Pomona Library. A public meeting will also be held when substantive plan amendments are made and when such a meeting is deemed necessary by the Hazard Mitigation Steering Committee.

Implementation through Existing Programs

Pomona Unified School District addresses statewide planning goals and legislative requirements through the State Office of Public Schools, City of Pomona General Plan, and referencing to local Building and Safety Codes. The Natural Hazard Mitigation Plan provides a series of recommendations - many of which are closely related to the goals and objectives of existing planning programs. The Pomona Unified School District will have the opportunity to implement recommended mitigation action items through existing programs and procedures.

The Pomona Unified School District Facilities Planning Department is responsible for administering appropriate Building & Safety Codes. The Facilities Department will work with other agencies at the city, county and state levels to review, develop and ensure Building & Safety Codes are implemented. This is to ensure that life-safety criteria are met for new construction. Development trends will be considered in land use planning and future land use decisions.

Within twelve months of formal adoption of the mitigation plan, the recommendations listed above will be incorporated into the process of existing planning mechanisms throughout the District. The meetings of the Hazard Mitigation Steering Committee will provide an opportunity for committee members to report back on the progress made on the integration of mitigation planning elements, documents and procedures. The District will incorporate natural hazard mitigation planning and considerations into the planning process for Measure J projects as well as in its normal planning process. Measure J projects are subject to oversight by the Measure J Committee made up of community members.

Plan Adoption

This plan will be approved by the Pomona Unified School District Board in Fall 2004. Each revision to this plan will be presented to and approved by the Board, since this plan is a living document subject to change as and when needed. Simple corrections of typographical errors will not be subject to this condition. The adoption of this plan will be signified by a formal resolution from the Board with the corresponding signatures.

APPENDIX

A

Plan Adoption Resolution

APPENDIX

B

Planning Partners

The Stakeholders Planning Committee consists of representatives from the following jurisdictions:

Entity	Representative
Pomona Unified School District	Pam Lopez, Asst. Superintendent/CFO Business Svc., Enrique Medina, Asst. Superintendent/Facilities, Amy McElwain, Director Risk Management, Joseph Williams, Director Maintenance & Operations, Isela Vazquez Director Facilities Planning, Ronald Young Facilities Planner, Fausto Recalde, Consultant
City of Pomona	Dyett & Bhatia, Urban and Regional Planners Consultants, Joan Isaacson, Senior Planner/Associate; Anna Hutchinson, GIS Specialist/Assistant Planner,
City of Pomona Police Department	Chief Lewis, Carrie Cruz, Emergency Operations Coordinator
City of Pomona Fire Department	Jim Enriquez, Battalion Chief
City of Pomona Community Development Department	Rick Gomez, Community Development Director Ronald M. Shinn, Senior Management
City of Pomona Public Works Department	Chris Vogt, Director Public Works
City of Pomona Utility Services Department	Tim Connor, Utility Services Representative
California Polytechnic State University-Pomona	Debbie McFall, Emergency Preparedness Coordinator; Dr. Richard Hyslop, Chair, Geography Department.
City of Diamond Bar	John Bingham, NHMP Consultant
Pomona Valley Hospital Medical Center	Ken Van Lul, Vice President of General Services, Michael Vestino, Director of Facilities, Fausto Recalde , Consultant
Red Cross Pomona Chapter	Dave Amdahl
Southern California Gas Company	Bob Cruz, Gas Company Service Representative

The Hazards Mitigation Planning Committee consisted of representatives from the jurisdictions. The same Committee members:

- Provide technical input and information specific to their jurisdiction/entity to exchange ideas for the development of their plan.
- Develop mitigation plan goals based on local hazards to provide a long-term vision reducing our region's vulnerability to natural hazard events.
- Identify, analyze, and prioritize the mitigation initiatives for the region as well as for their jurisdiction.
- Analyze the cost and benefit of the mitigation initiatives.
- Identify appropriate public involvement opportunities and participate in or host a public meeting.

- Review plan elements in draft and final form.

APPENDIX

C

Public Participation Process

Public Participation Process

Public participation is a key component to strategic planning processes. Citizen participation offers citizens the chance to voice their ideas, interests, and opinions. The Federal Emergency Management Agency also requires public input during the development of mitigation plans.

Pomona Unified School District Natural Hazard Mitigation Plan integrates a cross-section of citizen input throughout the planning process. To accomplish this goal, the Pomona Unified School District Hazard Mitigation Steering Committee developed a public participation process through these components: (1) developing a steering committee comprised of knowledgeable individuals representative of the District & the community; (2) soliciting community input through meetings, community surveys, and the District's wed site; and (3) conducting a public workshop to identify common concerns and ideas regarding hazard mitigation and to discuss specific goals and actions of the mitigation plan.

Integrating public participation during the development of Pomona Unified School District Natural Hazard Mitigation Plan has ultimately resulted in increased public awareness. Through citizen involvement, the mitigation plan reflects community issues, concerns, and new ideas and perspectives on mitigation opportunities and plan action items.

Steering Committee

Hazard mitigation at the Pomona Unified School District is overseen by the Pomona Unified School District Hazard Mitigation Steering Committee, which consists of representatives from various city agencies, representatives from local business and community organizations and the public. Steering committee members have an understanding of how the community is structured and how residents, businesses, and the environment may be affected by natural hazard events. The steering committee guided the development of the plan, and assisted in developing plan goals and action items, and sharing local expertise to create a more comprehensive plan.

Table C.1 lists the various people and organizations that participated on the Pomona Unified School District Hazard Mitigation Steering Committee.

Table C.1. Pomona Unified School District Hazard Mitigation Steering Committee
Pomona Unified School District Assistant Superintendent/CFO, Business Services
Pomona Unified School District Assistant to the Superintendent - Facilities
Pomona Unified School District Maintenance & Operations Director
Pomona Unified School District Risk Management Consultant
Pomona Unified School District Facilities Planning Director
City of Pomona, Director of Public Works
City of Pomona, Emergency Services Coordinator
City of Pomona, Municipal Services Director
ASCIP, Risk Management Support Division
Office of Disaster Management, Area G

Meetings

In addition to letters inviting coordination between local agencies, specifically the City of Pomona and Los Angeles County Office of Disaster Management, Area G, and several meetings were held to communicate the objectives of the plan, gather information and resources, and to solicit community input in the planning process.

Copies of letters to other public agencies, as well as meeting agendas, meeting minutes and sign-in sheets follow.

APPENDIX

D

DISTRICT'S SITES DESCRIPTION AND MAPS

Sites – Elementary Schools

ALCOTT

First built in 1939, the original buildings vary in the following types: textured concrete block, solid brick, or stucco on wooden frame, the former two noted being masonry bearing. From 1954-1990, portables consisting of stud walls with wooden siding or stucco on wood frame were erected.

ALLISON

The original site was built in 1962, each building within the site stands one story tall and is made of masonry bearing, solid brick walls. There are five total buildings that house administration and students. Portable structures number twenty-six total, and are constructed of stucco on wood frames or stud walls-wood siding. These portables have been constructed over the period from 1969-2000.

ARMSTRONG

First erected in 1970, the original buildings are made of textured concrete, masonry bearing block walls. The main building stands two stories, while the other class structure stands one story. The majority of students are in portables that were constructed between 1993 and 1997. They are made of wood stud frame exteriors, with wood sided walls.

ARROYO

Built first during 1953, eight original structures house cafeteria, administration and students. These eight buildings all stand at one story tall and are made of solid brick, with masonry bearing walls. Portables were first used in 1957, and the most recent additions were erected in 1999. Each portable varies in construction between wood framed exteriors, with stucco or stud walls or with wood siding.

BARFIELD

Initially constructed in 1955, the four main buildings are made of solid brick masonry bearing walls, and all stand at one story tall. From the site's beginning in 1955, portables were implemented using wood frames with stucco and stud-walls with wood siding. Additional mobile structures have been added most recently in 1999.

DECKER

Built in 1980. The original structures consist of stucco on wooden frames, with wood stud frame exteriors. Portables added in 1987 and 2000 are all made of wooden stud walls with wood frame exteriors.

DIAMOND POINT

The first five main structures were erected in 1967, and consist of solid brick, masonry bearing-type walls. Four of these buildings which house students for classes, stand at two stories tall, the fifth building of the original structures is single story. Six portables are located on this site, and they are made of stud walls with wood siding. They were first added in 1969 with the latest addition in 1997.

EL CAMINO

The site constructed in 1992 has portables that consist of stud walls with wood siding, and wood frame exteriors. They all stand at one story tall.

GOLDEN SPRINGS

Constructed in 1963, previously composed of portables first in 1957. The buildings from ’63 are made of solid brick classified with masonry bearing walls. The early portables consist of stucco on wooden frames, and newer ones erected from 1979-1997 consist of stud walls with wood siding.

HARRISON

Built in 1955, the initial buildings stand at one story and are made of solid brick or concrete block metal with glass, both types being masonry bearing. Portable classrooms were first added beginning in 1990 and until 2000. The portable buildings on this site are made of stud walls with wood siding and wood frame exteriors.

KELLOG

First erected in 1956, this site began with both permanent and portable buildings. The permanent structures stand at one story, and are made of solid brick, and some include glass panels. The portables consist of stucco covered wooden frames or stud walls with wood siding; both types of modular buildings have wood stud exterior frame walls.

KINGSLEY

Built in 1951, the original buildings consist of solid brick masonry bearing walls, with one building being made of adobe block. The structures stand at one story. Portables with wooden frames covered with stucco and wood frame exteriors were first used in 1957; in 1988 modular buildings with stud walls and wooden siding were added with the latest additions having been in 2000.

LEXINGTON

This site was first erected in 1957 with a single portable building, and expanded in 1961with several permanent building structures; the permanent buildings comprised of solid brick, and masonry bearing walls. Portables have been constructed with either stucco on wood frames or wooden stud walls.

LINCOLN

First erected in 1936, the site began with one building made of stucco on wood frame, with wood stud frame exterior walls. Portables brought onto the site stand at one story tall. The portables were first erected in 1957 and have been added most recently in 2000. Earlier portables are built with stucco on wood frame, and later portable structures have stud walls with wood siding.

MADISON

First built in 1951, the initial buildings have masonry bearing walls and are constructed out of solid brick. Portables were first constructed in 1966, and have most recently been added in 1999. The portables consist of two types including stucco covered wood or wooden stud walls. Both types of portables having wood frame exteriors.

MENDOZA

Built in 1947. The four original buildings are made of brick, two of them having metal with glass panels with the others containing masonry bearing walls. Through the period from 1956-1988, portable classrooms consisting of stucco on wooden frames, or wooden stud walls, were added at the site.

MONTVUE

This site was constructed in 1954, with permanent and modular buildings. The permanent buildings have either stucco on wood frames with wood exteriors or solid masonry bearing brick walls. The portables have stucco on wooden frames, with wood stud exterior walls. Newer portables consist of stud walls with wood siding, and wood frame exteriors. The latest portable buildings were constructed in 2000.

PANTERA

This site was constructed in 1999 with permanent and modular buildings. The structures stand at one story and are made of stucco on wood frames.

PHILADELPHIA

Constructed in 1956, the original site had permanent and portable buildings. The permanent buildings are made of solid brick with masonry bearing walls, and the portables are made of stucco covered wood frames, with wooden stud frame exteriors. More recent portables added to the site in 1997 have wood stud frame exteriors, with wooden siding.

PUEBLO

First constructed in 1997, with a classroom building erected in 2000. The portables on this site are made of stud walls, and have stud frame exterior walls. The newer, permanent building is made of curtain-EIFS paneling with wood stud frame exterior walls.

RANCH HILLS

First built in 1990, the portables used initially are made of stud walls with wooden siding and have wood frame exteriors. The main building was erected in 1994; it is constructed of stud walls, and wood frame exteriors.

ROOSEVELT

First built in 1971, the initial building is one story tall and made of concrete block masonry bearing walls. Several portables were added during the period of 1993-1997. These portables are constructed with stud walls with wood sidings, and make of the majority of the site.

SAN ANTONIO

Initially built in 1994, the entire site consists of portable buildings that are constructed using stud walls with wood siding including wood stud frame exteriors. Twenty-four structures make up this site, each standing at single story height.

SAN JOSE

Original structures are single story and constructed of masonry bearing walls. They were built in 1948. Portable were added to the site beginning in 1969 with the most recent additions in 2000.

VEJAR

Built in 1996, two permanent buildings: the administration and library are made of concrete block with wood stud frame exteriors. The portables constructed are made of wood stud walls, with wooden siding, and wood stud frame exteriors. Extra portables were added to the site in 1999.

WASHINGTON

First built in 1957 with permanent and portable buildings. A main building was also erected later in 1995. The buildings consist of masonry bearing walls with either solid brick, or textured concrete block. Portables have been erected most recently in 1988 and are either stucco-covered wood, or stud walls with wood siding, both having wood frame exteriors.

WESTMONT

First built in 1947, the original buildings all stand at one story tall, have masonry-bearing walls, and are made of solid brick. Portables erected from 1984-1997 are made out of stud walls or stucco covered wood; both types of portables have wooden frame exteriors.

YORBA

First erected in 1961, this site has a majority of buildings with brick veneer walls, and wood stud frame exteriors, with one building having metal sidings. From 1979-1996, portables were added to the site. The portables are constructed with stucco on wood frames, or stud walls with wood siding; every portable has wood stud frame exteriors.

Sites – Middle Schools

EMERSON

First constructed in 1949, the main buildings are made of stucco on wooden frames, with wood stud frame exterior walls. Portables on the site have similar exteriors but with studded walls and wooden siding. Each of the original and portable buildings stands one story tall. Fourteen modular buildings have been added to the site during the period from 1979 to 1993.

FREMONT

Erected in 1961, with portables added from 1987-1999. The initial buildings are made of solid brick with masonry bearing walls. The portables are constructed of stud walls with wooden siding, and wood frame exteriors.

LORBEER

Erected in 1957, the first building was a portable classroom later added were two buildings in 1968, the gym and kitchen. Portables have been constructed since the original site construction, most recently in 1999. The portables are made of stucco on wood frame, adobe block, or stud walls; all types with wood exterior frames.

MARSHALL

Built in 1954, the initial one-story buildings are made of concrete block or solid brick, with either masonry bearing frames or reinforced concrete frames. Portables were implemented in 1990 and 1993, and are made of stud walls with wooden siding.

PALOMARES

First erected in the early 1960's, the main building is made of stucco on wood frames, with wood stud exterior walls (1961), the other buildings are made of formed concrete and adobe block, both masonry bearing. From 1990 to 1992 modular buildings consisting of stud walls with wooden frame exteriors have been added to the site. All buildings stand one story tall.

SIMONS

Erected in 1966, the first buildings are constructed of solid brick with masonry bearing walls. The portables on this site were first constructed beginning in 1979 and have most recently been added in 1999. The portables are mostly stud walls with wood siding and wood stud frame exteriors, with one exception erected in 1979 having stucco covered wood frames instead of stud walls.

Sites – High Schools

DIAMOND RANCH

Built beginning in 1996, the original portable structures are constructed with stud walls with wooden siding that have wood stud frame exteriors. Permanent structures added to the property in later phased construction, beginning in 1997are made of reinforced concrete with metal studs and corrugated metal exterior.

GANESHA

Erected in 1957, the first buildings are constructed of solid brick, masonry-bearing walls. Portables were erected beginning 1957 and until 1992. They are made of stud wood walls, with wood frame exterior siding. All buildings, permanent and portable, stand at one story tall.

GAREY

First built in 1961, this site's main buildings are made of solid brick (masonry bearing) or stucco on wooden frames (wooden stud frame exteriors). From 1986-1993 portables consisting of stud walls with wood siding and stud frame exteriors have been constructed to serve various purposes.

GAREY VILLAGE

Built in the late 1970's the buildings were purchased for office/administrative uses in addition to supporting a later added 9th grade campus constructed of modular buildings consisting of stud walls with wood siding and stud frame exteriors

PARK WEST

Erected in 1977, the site has two buildings with one portable. These buildings are made of metal siding and have metal frame walls, and the single portable has wood stud frame exterior walls.

POMONA

Constructed in 1960, the original buildings consist of solid brick, masonry-bearing walls. From 1979, to 1994, portables constructed out of stud walls with wood siding or stucco-covered walls (both with wood stud frame exteriors) have been implemented at this site.

POMONA ALTERNATIVE

This building consists of a metal exterior with stucco and metal and wood framing.

VILLAGE ACADEMY

Constructed in 1997 the site was built using tilt up reinforced concrete exterior and with interior metal stud walls.

605 NORTH PARK

Erected in 1998, this site has portables made of stud walls, with wooden stud frame exteriors.

Sites – Other

EDUCATION CENTER

The two-story administration center on this site was first erected in 1930, and is made of formed concrete, with masonry bearing walls. Additional buildings were added in 1970 and 1988. They consist of wood stud frame exterior walls, concrete block walls, or stud walls with wooden siding. The paint shop, auto shop and warehouse buildings are made of metal frame walls with metal sidings.

VILLAGE AT INDIAN HILL

The site, which was renovated from an open-air mall, was constructed over various periods. Construction types include: Exterior block walls, metal stud construction, reinforced concrete and interior wood and metal framing.

THE VILLAGE TOWER

Single building site; was constructed in 1958. The building stands at five stories tall, and has stud-stucco walls (masonry bearing).

ADULT AND CAREER EDUCATION CENTER

First built in 1942, with additions in 1970 and 1985. The first building is made of stucco on wood frame, with wood stud frame exteriors. The additional portables added are comprised of wood siding stud walls, with stud frame exteriors.

POMONA VOCATION CENTER

Initially constructed in 1981, the first two buildings are made of stucco covered wood frames with wood stud frame exteriors. Additional portables have been constructed from 1986-1997; they are all made of stud walls with wood stud frame exteriors.

APPENDIX

E

HAZARD MAPS FOR THE POMONA AREA
MAPS 1 - 4

APPENDIX

F

WORKSHEETS CACULATION AND SUPPORTING DOCUMENTATION

APPENDIX

G

FEMA-HAZUS-MH
EARTHQUAKE EVENT REPORT

APPENDIX

H

FEMA CROSSWALK

APPENDIX

I

REFERENCE/RESEARCH/CONTACTS

REFERENCES/RESEARCH/ CONTACTS

Association of State Flood Managers www.floods.org
California Department of Forestry and Fire Protection, website:
http://www.fire.ca.gov/php/fire_er_content/downloads/2003LargeFires.pdf
California Department of Forestry and Fire Protection, website:
http://www.fire.ca.gov/php/2003fireseasonstats_v2.asp.
California State Polytechnic University, Pomona, website:
http://www.csupomona.edu/
California Department of Transportation (Cal Trans) www.dot.ca.gov
City of Pomona, website: http://www.ci.pomona.ca.us/.
City of Pomona - Cruz, Carrie. Verbal Communication, June, July 2004.
California Department of Conservation, Division of Mines and Geology, 1998.
California Geological. Survey
http://www.consrv.ca.gov/CGS/rghm/pshamap/psha11834.html
Cal. Dept. of Conservation http://gmw.consrv.ca.gov/shmp/html/pdf_maps_so.html
Federal Emergency Management Agency Region IX, website: www.fema.gov
Federal Emergency Management Agency; Guide to Citizen Preparedness
FEMA, personal communication with DMA 2000 Specialist, June, July, 2004.
Keys to Safer Schools www.keystosaferschools.com
Landslide Hazard Program http://landslides.usgs.gov
National Association of School Psychologists www.nasponline.org
National Fire Protection Association http://nfpa.org/catalog/home/index.asp
National Floodplain Insurance Program www.fema.org
National interagency Fire Center www.nifc.gov
National Atmospheric/ Oceanic Administration, http://nimbo.wrh.noaa.gov
National Wildlife/Urban Interface Fire Program www.firewise.org
Los Angeles County Fire Authority www.lafa.org
Southern California Earthquake Center, website:
htto://www.data.sec.org/chrono_index/quakedex.html.
Southern California Edison www.sce.org
Southern California Earthquake Center www.scec.org
State Fire Marshal http://osfm.ca.gov
Significant Landslides Events in the United States.
http://landslides.usgs.gov.html_files/pubs/report1/Landslides_pass_508.pdf
United States Corps of Engineers www.usace.army.mil
United States Department of Education, Emergency Planning www.ed.gov
U.S. census Bureau: United States Population and Housing Counts, 1980 and 2000
United States Department of Homeland Security www.dhs.org
United States Seismic Policy Council www.wsspc.org

APPENDIX

J

Master Resource Directory

Master Resource Directory

The Resource Directory provides contact information for Local, Regional, State, and Federal programs that are currently involved in hazard mitigation activities. The Pomona Unified School District Hazard Mitigation Steering Committee may look to the organizations on the following pages for resources and technical assistance. The Resource Directory provides a foundation for potential partners in action item implementation.

The Pomona Unified School District Hazard Mitigation Steering Committee will continue to add contact information for organizations currently engaged in hazard mitigation activities. This section may also be used by various community members interested in hazard mitigation information and projects.

Association of State Floodplain Managers			
Level: Federal	Hazard: Flood	www.floods.org	
2809 Fish Hatchery Road			
Madison, WI 53713		Ph: 608-274-0123	Fx:
Notes: The Association of State Floodplain Managers is an organization of professionals involved in floodplain management, flood hazard mitigation, the National Flood Insurance Program, and flood preparedness, warning and recovery			
Building Seismic Safety Council (BSSC)			
Level: National	Hazard: Earthquake	www.bssconline.org	
1090 Vermont Ave., NW		Suite 700	
Washington, DC 20005		Ph: 202-289-7800	Fx: 202-289-109
Notes: The Building Seismic Safety Council (BSSC) develops and promotes building earthquake risk mitigation regulatory provisions for the nation.			
California Department of Transportation (Cal-Trans)			
Level: State	Hazard: Multi	http://www.dot.ca.gov/	
120 S. Spring Street			
Los Angeles, CA 90012		Ph: 213-897-3656	Fx:
Notes: Cal-Trans is responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as that portion of the Interstate Highway System within the state's boundaries. Alone and in partnership with Amtrak, Cal-trans is also involved in the support of intercity passenger rail service in California.			

California Resources Agency			
Level: State	Hazard: Multi	http://resources.ca.gov/	
1416 Ninth Street		Suite 1311	
Sacramento, CA 95814		Ph: 916-653-5656	Fx:
Notes: The California Resources Agency restores, protects and manages the state's natural, historical and cultural resources for current and future generations using solutions based on science, collaboration and respect for all the communities and interests involved.			
California Division of Forestry (CDF)			
Level: State	Hazard: Multi	http://www.fire.ca.gov/php/index.php	
210 W. San Jacinto			
Perris CA 92570		Ph: 909-940-6900	Fx:
Notes: The California Department of Forestry and Fire Protection protects over 31 million acres of California's privately owned wildlands. CDF emphasizes the management and protection of California's natural resources.			
California Division of Mines and Geology (DMG)			
Level: State	Hazard: Multi	www.consrv.ca.gov/cgs/index.htm	
801 K Street		MS 12-30	
Sacramento, CA 95814		Ph: 916-445-1825	Fx: 916-445-5718
Notes: The California Geological Survey develops and disseminates technical information and advice on California’s geology, geologic hazards, and mineral resources.			
California Environmental Resources Evaluation System (CERES)			
Level: State	Hazard: Multi	http://ceres.ca.gov/	
900 N St.		Suite 250	
Sacramento, Ca. 95814		Ph: 916-653-2238	Fx:
Notes: CERES is an excellent website for access to environmental information and websites.			
California Department of Water Resources (DWR)			
Level: State	Hazard: Flood	http://wwwdwr.water.ca.gov	
1416 9th Street			
Sacramento, CA 95814		Ph: 916-653-6192	Fx:
Notes: The Department of Water Resources manages the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments.			

California Department of Conservation: Southern California Regional Office			
Level: State	Hazard: Multi	www.consrv.ca.gov	
655 S. Hope Street		#700	
Los Angeles, CA 90017-2321		Ph: 213-239-0878	Fx: 213-239-0984
Notes: The Department of Conservation provides services and information that promote environmental health, economic vitality, informed land-use decisions and sound management of our state's natural resources.			
California Planning Information Network			
Level: State	Hazard: Multi	www.calpin.ca.gov	
		Ph:	Fx:
Notes: The Governor's Office of Planning and Research (OPR) publishes basic information on local planning agencies, known as the California Planners' Book of Lists. This local planning information is available on-line with new search capabilities and up-to-the- minute updates.			
EPA, Region 9			
Level: Regional	Hazard: Multi	http://www.epa.gov/region09	
75 Hawthorne Street			
San Francisco, CA 94105		Ph: 415-947-8000	Fx: 415-947-3553
Notes: The mission of the U.S. Environmental Protection Agency is to protect human health and to safeguard the natural environment through the themes of air and global climate change, water, land, communities and ecosystems, and compliance and environmental stewardship.			
Federal Emergency Management Agency, Region IX			
Level: Federal	Hazard: Multi	www.fema.gov	
1111 Broadway		Suite 1200	
Oakland, CA 94607		Ph: 510-627-7100	Fx: 510-627-7112
Notes: The Federal Emergency Management Agency is tasked with responding to, planning for, recovering from and mitigating against disasters.			
Federal Emergency Management Agency, Mitigation Division			
Level: Federal	Hazard: Multi	www.fema.gov/fima/planhowto.shtm	
500 C Street, S.W.			
Washington, D.C. 20472		Ph: 202-566-1600	Fx:
Notes: The Mitigation Division manages the National Flood Insurance Program and oversees FEMA's mitigation programs. It has of a number of programs and activities of which provide citizens Protection, with flood insurance; Prevention, with mitigation measures and Partnerships, with communities throughout the country.			

Floodplain Management Association			
Level: Federal	Hazard: Flood	www.floodplain.org	
P.O. Box 50891			
Sparks, NV 89435-0891		Ph: 775-626-6389	Fx: 775-626-6389
Notes: The Floodplain Management Association is a nonprofit educational association. It was established in 1990 to promote the reduction of flood losses and to encourage the protection and enhancement of natural floodplain values. Members include representatives of federal, state and local government agencies as well as private firms.			
Gateway Cities Partnership			
Level: Regional	Hazard: Multi	www.gatewaycities.org	
7300 Alondra Boulevard		Suite 202	
Paramount, CA 90723		Ph: 562-817-0820	Fx:
Notes: Gateway Cities Partnership is a 501 C 3 non-profit Community Development Corporation for the Gateway Cities region of southeast LA County. The region comprises 27 cities that roughly speaking extends from Montebello on the north to Long Beach on the South, the Alameda Corridor on the west to the Orange County line on the east.			
Governor's Office of Emergency Services (OES)			
Level: State	Hazard: Multi	www.oes.ca.gov	
P.O. Box 419047			
Rancho Cordova, CA 95741-9047		Ph: 916 845- 8911	Fx: 916 845- 8910
Notes: The Governor's Office of Emergency Services coordinates overall state agency response to major disasters in support of local government. The office is responsible for assuring the state's readiness to respond to and recover from natural, manmade, and war-caused emergencies, and for assisting local governments in their emergency preparedness, response and recovery efforts.			
Greater Antelope Valley Economic Alliance			
Level: Regional	Hazard: Multi		
42060 N. Tenth Street West			
Lancaster, CA 93534		Ph: 661-945-2741	Fx: 661-945-7711
Notes: The Greater Antelope Valley Economic Alliance, (GA VEA) is a 501 (c)(6) nonprofit organization with a 501(c)(3) affiliated organization the Antelope Valley Economic Research and Education Foundation. GA VEA is a public-private partnership of business, local governments, education, non-profit organizations and health care organizations that was founded in 1999 with the goal of attracting good paying jobs to the Antelope Valley in order to build a sustainable economy.			

Landslide Hazards Program, USGS			
Level: Federal	Hazard: Landslide	http://landslides.usgs.gov/index.html	
12201 Sunrise Valley Drive		MS 906	
Reston, VA 20192		Ph: 703-648- 4000	Fx:
Notes: The NLIC website provides good information on the programs and resources regarding landslides. The page includes information on the National Landslide Hazards Program Information Center, a bibliography, publications, and current projects. USGS scientists are working to reduce long-term losses and casualties from landslide hazards through better understanding of the causes and mechanisms of ground failure both nationally and worldwide.			
Los Angeles County Economic Development Corporation			
Level: Regional	Hazard: Multi	www.laedc.org	
444 S. Flower Street		34th Floor	
Los Angeles, CA 90071		Ph: 213-236-4813	Fx: 213- 623-0281
Notes: The LAEDC is a private, non-profit 501 (c) 3 organization established in 1981 with the mission to attract, retain and grow businesses and jobs in the Los Angeles region. The LAEDC is widely relied upon for its Southern California Economic Forecasts and Industry Trend Reports. Lead by the renowned Jack Kyser (Sr. Vice President, Chief Economist) his team of researchers produces numerous publications to help business, media and government navigate the LA region's diverse economy.			
Los Angeles County Public Works Department			
Level: County	Hazard: Multi	http://ladpw.org	
900 S. Fremont Ave.			
Alhambra, CA 91803		Ph: 626-458-5100	Fx:
Notes: The Los Angeles County Department of Public Works protects property and promotes public safety through Flood Control, Water Conservation, Road Maintenance, Bridges, Buses and Bicycle Trails, Building and Safety, Land Development, Waterworks, Sewers, Engineering, Capital Projects and Airports			
National Wildland/Urban Interface Fire Program			
Level: Federal	Hazard: Wildfire	www.firewise.org/	
1 Batterymarch Park			
Quincy, MA 02169-7471		Ph: 617-770-3000	Fx: 617 770-0700
Notes: Firewise maintains a Website designed for people who live in wildfire- prone areas, but it also can be of use to local planners and decision makers. The site offers online wildfire protection information and checklists, as well as listings of other publications, videos, and conferences.			

National Resources Conservation Service			
Level: Federal	Hazard: Multi	http://www.nrcs.usda.gov/	
14th and Independence Ave., SW		Room 5105-A	
Washington, DC 20250		Ph: 202-720-7246	Fx: 202-720-7690
Notes: NRCS assists owners of America's private land with conserving their soil, water, and other natural resources, by delivering technical assistance based on sound science and suited to a customer's specific needs. Cost shares and financial incentives are available in some cases.			

National Interagency Fire Center (NIFC)			
Level: Federal	Hazard: Wildfire	www.nifc.gov	
3833 S. Development Ave.			
Boise, Idaho 83705-5354		Ph: 208-387- 5512	Fx:
Notes: The NIFC in Boise, Idaho is the nation's support center for wildland firefighting. Seven federal agencies work together to coordinate and support wildland fire and disaster operations.			

National Fire Protection Association (NFPA)			
Level: National	Hazard: Wildfire	http://www.nfpa.org/catalog/home/index.asp	
1 Batterymarch Park			
Quincy, MA 02169-7471		Ph: 617-770-3000	Fx: 617 770-0700
Notes: The mission of the international nonprofit NFPA is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating scientifically-based consensus codes and standards, research, training and education			

National Floodplain Insurance Program (NFIP)			
Level: Federal	Hazard: Flood	www.fema.gov/nfip/	
500 C Street, S.W.			
Washington, D.C. 20472		Ph: 202-566-1600	Fx:
Notes: The Mitigation Division manages the National Flood Insurance Program and oversees FEMA's mitigation programs. It has of a number of programs and activities of which provide citizens Protection, with flood insurance; Prevention, with mitigation measures and Partnerships, with communities throughout the country.			

National Oceanic /Atmospheric Administration			
Level: Federal	Hazard: Multi	www.noaa.gov	
14th Street & Constitution Ave NW		Rm 6013	
Washington, DC 20230		Ph: 202-482-6090	Fx: 202-482-3154
Notes: NOAA's historical role has been to predict environmental changes, protect life and property, provide decision makers with reliable scientific information, and foster global environmental stewardship.			
National Weather Service, Office of Hydrologic Development			
Level: Federal	Hazard: Flood	http://www.nws.noaa.gov/	
1325 East West Highway		SSMC2	
Silver Spring, MD 20910		Ph: 301-713-1658	Fx: 301-713-0963
Notes: The Office of Hydrologic Development (OHD) enhances National Weather Service products by: infusing new hydrologic science, developing hydrologic techniques for operational use, managing hydrologic development by NWS field office, providing advanced hydrologic products to meet needs identified by NWS customers			
National Weather Service			
Level: Federal	Hazard: Multi	http://www.nws.noaa.gov/	
520 North Elevar Street			
Oxnard, CA 93030		Ph: 805-988- 6615	Fx:
Notes: The National Weather Service is responsible for providing weather service to the nation. It is charged with the responsibility of observing and reporting the weather and with issuing forecasts and warnings of weather and floods in the interest of national safety and economy. Briefly, the priorities for service to the nation are: 1. protection of life, 2. protection of property, and 3. promotion of the nation's welfare and economy.			
San Gabriel Valley Economic Partnership			
Level: Regional	Hazard: Multi	www.valleynet.org	
4900 Rivergrade Road		Suite A310	
Irwindale, CA 91706		Ph: 626-856-3400	Fx: 626-856-5115
Notes: The San Gabriel Valley Economic Partnership is a non-profit corporation representing both public and private sectors. The Partnership is the exclusive source for San Gabriel Valley-specific information, expertise, consulting, products, services, and events. It is the single organization in the Valley with the mission to sustain and build the regional economy for the mutual benefit of all thirty cities, chambers of commerce, academic institutions, businesses and residents.			

Sanitation Districts of Los Angeles County			
Level: County	Hazard: Flood	http://www.lacsd.ora/	
1955 Workman Mill Road			
Whittier, CA 90607		Ph:562-699-7411 x2301	Fx:
Notes: The Sanitation Districts provide wastewater and solid waste management for over half the population of Los Angeles County and turn waste products into resources such as reclaimed water, energy, and recyclable materials.			
Santa Monica Mountains Conservancy			
Level: Regional	Hazard: Multi	http://smmc.ca.gov/	
570 West Avenue Twenty-Six		Suite 100	
Los Angeles, CA 90065		Ph: 323-221-8900	Fx:
Notes: The Santa Monica Mountains Conservancy helps to preserve over 55,000 acres of parkland in both wilderness and urban settings, and has improved more than 114 public recreational facilities throughout Southern California.			
South Bay Economic Development Partnership			
Level: Regional	Hazard: Multi	www.southbaypartnership.com	
3858 Carson Street		Suite 110	
Torrance, CA 90503		Ph: 310-792-0323	Fx: 310-543-9886
Notes: The South Bay Economic Development Partnership is a collaboration of business, labor, education and government. Its primary goal is to plan an implement an economic development and marketing strategy designed to retain and create jobs and stimulate economic growth in the South Bay of Los Angeles County.			
South Coast Air Quality Management District (AQMD)			
Level: Regional	Hazard: Multi	www.aqmd.gov	
21865 E. Copley Drive			
Diamond Bar, CA 91765		Ph: 800-CUT-SMOG	Fx:
Notes: AQMD is a regional government agency that seeks to achieve and maintain healthful air quality through a comprehensive program of research, regulations, enforcement, and communication. The AQMD covers Los Angeles and Orange Counties and parts of Riverside and San Bernardino Counties.			

Southern California Earthquake Center (SCEC)			
Level: Regional	Hazard: Earthquake	www.scec.org	
3651 Trousdale Parkway		Suite 169	
Los Angeles, CA 90089-0742		Ph: 213-740-5843	Fx: 213/740-0011
Notes: The Southern California Earthquake Center (SCEC) gathers new information about earthquakes in Southern California, integrates this information into a comprehensive and predictive understanding of earthquake phenomena, and communicates this understanding to end-users and the general public in order to increase earthquake awareness, reduce economic losses, and save lives.			
Southern California Association of Governments (SCAG)			
Level: Regional	Hazard: Multi	www.scag.ca.gov	
818 W. Seventh Street		12th Floor	
Los Angeles, CA 90017		Ph: 213-236-1800	Fx: 213-236-1825
Notes: The Southern California Association of Governments functions as the Metropolitan Planning Organization for six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura and Imperial. As the designated Metropolitan Planning Organization, the Association of Governments is mandated by the federal government to research and draw up plans for transportation, growth management, hazardous waste management, and air quality.			
State Fire Marshal (SFM)			
Level: State	Hazard: Wildfire	http://osfm.fire.ca.gov	
1131 "S" Street			
Sacramento, CA 95814		Ph: 916-445-8200	Fx: 916-445-8509
Notes: The Office of the State Fire Marshal (SFM) supports the mission of the California Department of Forestry and Fire Protection (CDF) by focusing on fire prevention. SFM regulates buildings in which people live, controls substances which may, cause injuries, death and destruction by fire; provides statewide direction for fire prevention within wildland areas; regulates hazardous liquid pipelines; reviews regulations and building standards; and trains and educates in fire protection methods and responsibilities.			
The Community Rating System (CRS)			
Level: Federal	Hazard: Flood	http://www.fema.gov/nfip/crs.shtm	
500 C Street, S.W.			
Washington, D.C. 20472		Ph: 202-566-1600	Fx:
Notes: The Community Rating System (CRS) recognizes community floodplain management efforts that go beyond the minimum requirements of the NFIP. Property owners within the County would receive reduced NFIP flood insurance premiums if the County implements floodplain management practices that qualify it for a CRS rating. For further information on the CRS, visit FEMA's website.			

United States Geological Survey			
Level: Federal	Hazard: Multi	http://www.usgs.gov/	
345 Middlefield Road			
Menlo Park, CA 94025		Ph: 650-853-8300	Fx:
Notes: The USGS provides reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.			
US Army Corps of Engineers			
Level: Federal	Hazard: Multi	http://www.usace.army.mil	
P.O. Box 532711			
Los Angeles CA 90053- 2325		Ph: 213-452- 3921	Fx:
Notes: The United States Army Corps of Engineers work in engineering and environmental matters. A workforce of biologists, engineers, geologists, hydrologists, natural resource managers and other professionals provide engineering services to the nation including planning, designing, building and operating water resources and other civil works projects.			
USDA Forest Service			
Level: Federal	Hazard: Wildfire	http://www.fs.fed.us	
1400 Independence Ave. SW			
Washington, D.C. 20250-0002		Ph: 202-205-8333	Fx:
Notes: The Forest Service is an agency of the U.S. Department of Agriculture. The Forest Service manages public lands in national forests and grasslands.			
USGS Water Resources			
Level: Federal	Hazard: Multi	www.water.usgs.gov	
6000 J Street		Placer Hall	
Sacramento, CA 95819-6129		Ph: 916-278-3000	Fx: 916-278-3070
Notes: The USGS Water Resources mission is to provide water information that benefits the Nation's citizens: publications, data, maps, and applications software.			
Western States Seismic Policy Council (WSSPC)			
Level: Regional	Hazard: Earthquake	www.wsspc.org/home.html	
125 California Avenue		Suite D201, #1	
Palo Alto, CA 94306		Ph: 650-330-1101	Fx: 650-326-1769
Notes: WSSPC is a regional earthquake consortium funded mainly by FEMA. Its website is a great resource, with information clearly categorized - from policy to engineering to education.			

Westside Economic Collaborative C/O Pacific Western Bank			
Level: Regional	Hazard: Multi	http://www.westside-Ia.or	
120 Wilshire Boulevard			
Santa Monica, CA 90401		Ph: 310-458-1521	Fx: 310-458-6479
Notes: The Westside Economic Development Collaborative is the first Westside regional economic development corporation. The Westside EDC functions as an information gatherer and resource center, as well as a forum, through bringing business, government, and residents together to address issues affecting the region: Economic Diversity, Transportation, Housing, Workforce Training and Retraining, Lifelong Learning, Tourism, and Embracing Diversity.			

APPENDIX

K

ACRONYMS

Federal Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ATC	Applied Technology Council
b/ca	benefit/cost analysis
BFE	Base Flood Elevation
BLM	Bureau of Land Management
BSSC	Building Seismic Safety Council
CDBG	Community Development Block Grant
CFR	Code of Federal Regulations
CRS	Community Rating System
EDA	Economic Development Administration
EPA	Environmental Protection Agency
ER	Emergency Relief
EWP	Emergency Watershed Protection (NRCS Program)
FAS	Federal Aid System
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMA	Flood Mitigation Assistance (FEMA Program)
FTE	Full Time Equivalent
GIS	Geographic Information System
GNS	Institute of Geological and Nuclear Sciences (International)
GSA	General Services Administration
HAZUS	Hazards U.S.
HMGP	Hazard Mitigation Grant Program
HMST	Hazard Mitigation Survey Team
HUD	Housing and Urban Development (United States, Department of)
IBHS	Institute for Business and Home Safety
ICC	Increased Cost of Compliance
IHMT	Interagency Hazard Mitigation Team
NCDC	National Climate Data Center
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHMP	Natural Hazard Mitigation Plan (also known as "409 Plan")
NIBS	National Institute of Building Sciences
NIFC	National Interagency Fire Center
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NWS	National Weather Service
SBA	Small Business Administration
SEAO	Structural Engineers Association of Oregon
SHMO	State Hazard Mitigation Officer
TOR	Transfer of Development Rights
UGB	Urban Growth Boundary

URM	Unreinforced Masonry
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USDA	United States Department of Agriculture
USFA	United States Fire Administration
USFS	United States Forest Service
USGS	United States Geological Survey
WSSPC	Western States Seismic Policy Council

California Acronyms

A&W	Alert and Warning
AA	Administering Areas
AAR	After Action Report
ARC	American Red Cross
ARP	Accidental Risk Prevention
ATC20	Applied Technology Council20
ATC21	Applied Technology Council21
BCP	Budget Change Proposal
BSA	California Bureau of State Audits
CAER	Community Awareness & Emergency Response
CalARP	California Accidental Release Prevention
CalBO	California Building Officials
CalEPA	California Environmental Protection Agency
CalREP	California Radiological Emergency Plan
CALSTARS	California State Accounting Reporting System
CalTRANS	California Department of Transportation
CBO	Community Based Organization
CD	Civil Defense
CDF	California Department of Forestry and Fire Protection
CDMG	California Division of Mines and Geology
CEC	California Energy Commission
CEPEC	California Earthquake Prediction Evaluation Council
CESRS	California Emergency Services Radio System
CHIP	California Hazardous Identification Program
CHMIRS	California Hazardous Materials Incident Reporting System
CHP	California Highway Patrol
CLETS	California Law Enforcement Telecommunications System
CSTI	California Specialized Training Institute
CUEA	California Utilities Emergency Association
CUPA	Certified Unified Program Agency
DAD	Disaster Assistance Division (of the state Office of Emergency Svcs)
DFO	Disaster Field Office
DGS	California Department of General Services

DHSRHB	California Department of Health Services, Radiological Health Branch
DO	Duty Officer
DOC	Department Operations Center
DOE	Department of Energy (U.S.)
DOF	California Department of Finance
DOJ	California Department of Justice
DPA	California Department of Personnel Administration
DPIG	Disaster Preparedness Improvement Grant
DR	Disaster Response
DSA	Division of the State Architect
DSR	Damage Survey Report
DSW	Disaster Service Worker
DWR	California Department of Water Resources
EAS	Emergency Alerting System
EDIS	Emergency Digital Information System
EERI	Earthquake Engineering Research Institute
EMA	Emergency Management Assistance
EMI	Emergency Management Institute
EMMA	Emergency Managers Mutual Aid
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency (U.S.)
EPEDAT	Early Post Earthquake Damage Assessment Tool
EPI	Emergency Public Information
EPIC	Emergency Public Information Council
ESC	Emergency Services Coordinator
FAY	Federal Award Year
FDAA	Federal Disaster Assistance Administration
FEAT	Governor's Flood Emergency Action Team
FEMA	Federal Emergency Management Agency
FFY	Federal Fiscal Year
FIR	Final Inspection Reports
FIRESCOPE	Firefighting Resources of So. Calif Organized for Potential Emergencies
FMA	Flood Management Assistance
FSR	Feasibility Study Report
FY	Fiscal Year
GIS	Geographical Information System
HAZMAT	Hazardous Materials
HAZMIT	Hazardous Mitigation
HAZUS	Hazards United States (an earthquake damage assessment prediction tool)
HAD	Housing and Community Development
HEICS	Hospital Emergency Incident Command System
HEPG	Hospital Emergency Planning Guidance
HIA	Hazard Identification and Analysis Unit
HMEP	Hazardous Materials Emergency Preparedness

HMGP	Hazard Mitigation Grant Program
IDE	Initial Damage Estimate
IA	Individual Assistance
IFG	Individual & Family Grant (program)
IRG	Incident Response Geographic Information System
IPA	Information and Public Affairs (of state Office of Emergency Services)
LAN	Local Area Network
LEMMA	Law Enforcement Master Mutual Aid
LEPC	Local Emergency Planning Committee
MARAC	Mutual Aid Regional Advisory Council
MHID	Multihazard Identification
MOU	Memorandum of Understanding
NBC	Nuclear, Biological, Chemical
NEMA	National Emergency Management Agency
NEMIS	National Emergency Management Information System
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Association
NPP	Nuclear Power Plant
NSF	National Science Foundation
NWS	National Weather Service
OA	Operational Area
OASIS	Operational Area Satellite Information System
OCC	Operations Coordination Center
OCD	Office of Civil Defense
OEP	Office of Emergency Planning
OES	California Governor's Office of Emergency Services
OSHPD	Office of Statewide Health Planning and Development
OSPR	Oil Spill Prevention and Response
PA	Public Assistance
PC	Personal Computer
PDA	Preliminary Damage Assessment
PIO	Public Information Office
POST	Police Officer Standards and Training
PPA/CA	Performance Partnership Agreement/Cooperative Agreement (FEMA)
PSA	Public Service Announcement
PTAB	Planning and Technological Assistance Branch
PTR	Project Time Report
RA	Regional Administrator (OES)
RADEF	Radiological Defense (program)
RAMP	Regional Assessment of Mitigation Priorities
RAPID	Railroad Accident Prevention & Immediate Deployment
RDO	Radiological Defense Officer
RDMHC	Regional Disaster Medical Health Coordinator
REOC	Regional Emergency Operations Center
REPI	Reserve Emergency Public Information
RES	Regional Emergency Staff

RIMS	Response Information Management System
RMP	Risk Management Plan
RPU	Radiological Preparedness Unit (OES)
RRT	Regional Response Team
SAM	State Administrative Manual
SARA	Superfund Amendments & Reauthorization Act
SAVP	Safety Assessment Volunteer Program
SBA	Small Business Administration
SCO	California State Controller's Office
SEMS	Standardized Emergency Management System
SEPIC	State Emergency Public Information Committee
SLA	State and Local Assistance
SONGS	San Onofre Nuclear Generating Station
SOP	Standard Operating Procedure
SWEPC	Statewide Emergency Planning Committee
TEC	Travel Expense Claim
TRU	Transuranic
TTT	Train the Trainer
UPA	Unified Program Account
UPS	Uninterrupted Power Source
USAR	Urban Search and Rescue
USGS	United States Geological Survey
WC	California State Warning Center
WAN	Wide Area Network
WIPP	Waste Isolation Pilot Project

APPENDIX

L

GLOSSARY

GLOSSARY

Acceleration	The rate of change of velocity with respect to time. Acceleration due to gravity at the earth's surface is 9.8 meters per second squared. That means that every second that something falls toward the surface of earth its velocity increases by 9.8 meters per second.
Asset	Any manmade or natural feature that has value, including, but not limited to people; buildings; infrastructure like bridges, roads, and sewer and water systems; lifelines like electricity and communication resources; or environmental, cultural, or recreational features like parks, dunes, wetlands, or landmarks.
Base Flood	Flood that has a 1 percent probability of being equaled or exceeded in any given year. Also known as the 100-year flood.
Base Flood Elevation (BFE)	Elevation of the base flood in relation to a specified datum, such as the National Geodetic Vertical Datum of 1929. The Base Flood Elevation is used as the standard for the National Flood Insurance Program.
Bedrock	The solid rock that underlies loose material, such as soil, sand, clay, or gravel.
Building	A structure that is walled and roofed, principally above ground and permanently affixed to a site. The term includes a manufactured home on a permanent foundation on which the wheels and axles carry no weight.
Coastal High Hazard Area	Area, usually along an open coast, bay, or inlet that is subject to inundation by storm surge and, in some instances, wave action caused by storms or seismic sources.
Coastal Zones	The area along the shore where the ocean meets the land as the surface of the land rises above the ocean. This land/water interface includes barrier islands, estuaries, beaches, coastal wetlands, and land areas having direct drainage to the ocean.
Community Rating System (CRS)	An NFIP program that provides incentives for NFIP communities to complete activities that reduce flood hazard risk. When the community completes specified activities, the insurance premiums of policyholders in these communities are reduced.
Computer-Aided Design And Drafting (CADD)	A computerized system enabling quick and accurate electronic 2-D and 3-D drawings, topographic mapping, site plans, and profile/cross-section drawings.
Contour	A line of equal ground elevation on a topographic (contour) map.

Critical Facility	Facilities that are critical to the health and welfare of the population and that are especially important following hazard events. Critical facilities include, but are not limited to, shelters, police and fire stations, and hospitals.
Debris	The scattered remains of assets broken or destroyed in a hazard event. Debris caused by a wind or water hazard event can cause additional damage to other assets.
Digitize	To convert electronically points, lines, and area boundaries shown on maps into x, y coordinates (e.g., latitude and longitude, universal transverse mercator (UTM), or table coordinates) for use in computer applications.
Displacement Time	The average time (in days) which the building's occupants typically must operate from a temporary location while repairs are made to the original building due to damages resulting from a hazard event.
Duration	How long a hazard event lasts.
Earthquake	A sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of earth's tectonic plates.
Erosion	Wearing away of the land surface by detachment and movement of soil and rock fragments, during a flood or storm or over a period of years, through the action of wind, water, or other geologic processes.
Erosion Hazard Area	Area anticipated being lost to shoreline retreat over a given period of time. The projected inland extent of the area is measured by multiplying the average annual long-term recession rate by the number of years desired.
Essential Facility	Elements that are important to ensure a full recovery of a community or state following a hazard event. These would include: government functions, major employers, banks, schools, and certain commercial establishments, such as grocery stores, hardware stores, and gas stations.
Extent	The size of an area affected by a hazard or hazard event.
Extratropical Cyclone	Cyclonic storm events like Nor'easters and severe winter low-pressure systems. Both West and East coasts can experience these non-tropical storms that produce gale-force winds and precipitation in the form of heavy rain or snow. These cyclonic storms, commonly called Nor'easters on the East Coast because of the direction of the storm winds, can last for several days and can be very large – 1,000-mile wide storms are not uncommon.
Fault	A fracture in the continuity of a rock formation caused by a shifting or dislodging of the earth's crust, in which adjacent surfaces are differentially displaced parallel to the plane of fracture.

Federal Emergency Management Agency (FEMA)	Independent agency created in 1978 to provide a single point of accountability for all Federal activities related to disaster mitigation and emergency preparedness, response and recovery.
Fire Potential Index (FPI)	Developed by USGS and USFS to assess and map fire hazard potential over broad areas. Based on such geographic information, national policy makers and on-the-ground fire managers established priorities for prevention activities in the defined area to reduce the risk of managed and wildfire ignition and spread. Prediction of fire hazard shortens the time between fire ignition and initial attack by enabling fire managers to pre-allocate and stage suppression forces to high fire risk areas.
Flash Flood	A flood event occurring with little or no warning where water levels rise at an extremely fast rate.
Flood	A general and temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of inland or tidal waters, (2) the unusual and rapid accumulation or runoff of surface waters from any source, or (3) mudflows or the sudden collapse of shoreline land.
Flood Depth	Height of the flood water surface above the ground surface.
Flood Elevation	Elevation of the water surface above an established datum, e.g. National Geodetic Vertical Datum of 1929, North American Vertical Datum of 1988, or Mean Sea Level.
Flood Hazard Area	The area shown to be inundated by a flood of a given magnitude on a map.
Flood Insurance Rate Map (FIRM)	Map of a community, prepared by the Federal Emergency Management Agency that shows both the special flood hazard areas and the risk premium zones applicable to the community.
Flood Insurance Study (FIS)	A study that provides an examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations in a community or communities.
Floodplain	Any land area, including watercourse, susceptible to partial or complete inundation by water from any source.
Frequency	A measure of how often events of a particular magnitude are expected to occur. Frequency describes how often a hazard of a specific magnitude, duration, and/or extent typically occurs, on average. Statistically, a hazard with a 100-year recurrence interval is expected to occur once every 100 years on average, and would have a 1 percent chance – its probability – of happening in any given year. The reliability of this information varies depending on the kind of hazard being considered.

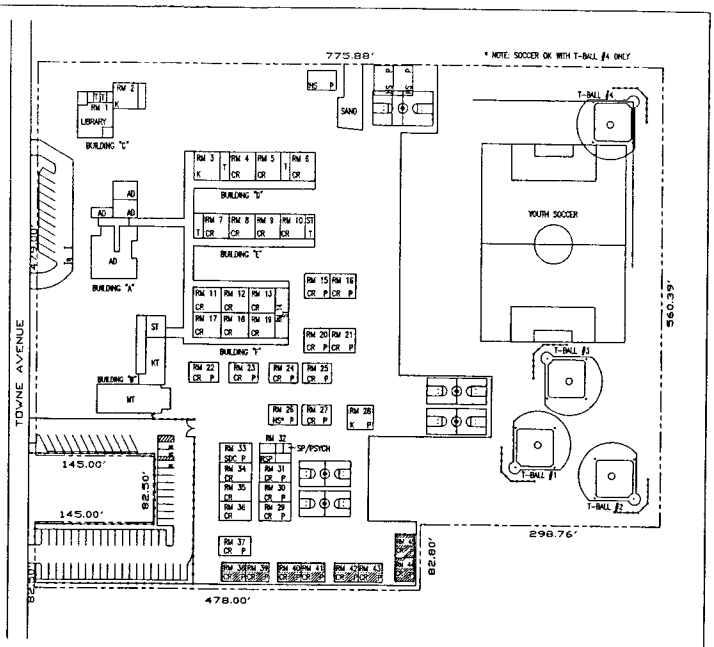
Fujita Scale of Tornado Intensity	Rates tornadoes with numeric values from F0 to F5 based on tornado wind speed and damage sustained. An F0 indicates minimal damage such as broken tree limbs or signs, while and F5 indicated severe damage sustained.
Functional Downtime	The average time (in days) during which a function (business or service) is unable to provide its services due to a hazard event.
Geographic Area Impacted	The physical area in which the effects of the hazard are experienced.
Geographic Information Systems (GIS)	A computer software application that relates physical features on the earth to a database to be used for mapping and analysis.
Ground Motion	The vibration or shaking of the ground during an earthquake. When a fault ruptures, seismic waves radiate, causing the ground to vibrate. The severity of the vibration increases with the amount of energy released and decreases with distance from the causative fault or epicenter, but soft soils can further amplify ground motions
Hazard	A source of potential danger or adverse condition. Hazards in this how to series will include naturally occurring events such as floods, earthquakes, tornadoes, tsunami, coastal storms, landslides, and wildfires that strike populated areas. A natural event is a hazard when it has the potential to harm people or property.
Hazard Event	A specific occurrence of a particular type of hazard.
Hazard Identification	The process of identifying hazards that threaten an area.
Hazard Mitigation	Sustained actions taken to reduce or eliminate long-term risk from hazards and their effects.
Hazard Profile	A description of the physical characteristics of hazards and a determination of various descriptors including magnitude, duration, frequency, probability, and extent. In most cases, a community can most easily use these descriptors when they are recorded and displayed as maps.
HAZUS (Hazards U.S.)	A GIS-based nationally standardized earthquake loss estimation tool developed by FEMA.
Hurricane	An intense tropical cyclone, formed in the atmosphere over warm ocean areas, in which wind speeds reach 74-miles-per-hour or more and blow in a large spiral around a relatively calm center or "eye." Hurricanes develop over the north Atlantic Ocean, northeast Pacific Ocean, or the south Pacific Ocean east of 160°E longitude. Hurricane circulation is counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

Hydrology	The science of dealing with the waters of the earth. A flood discharge is developed by a hydrologic study.
Infrastructure	Refers to the public services of a community that have a direct impact on the quality of life. Infrastructure includes communication technology such as phone lines or Internet access, vital services such as public water supplies and sewer treatment facilities, and includes an area's transportation system such as airports, heliports; highways, bridges, tunnels, roadbeds, overpasses, railways, bridges, rail yards, depots; and waterways, canals, locks, seaports, ferries, harbors, dry-docks, piers and regional dams.
Intensity	A measure of the effects of a hazard event at a particular place.
Landslide	Downward movement of a slope and materials under the force of gravity.
Lateral Spreads	Develop on gentle slopes and entail the sidelong movement of large masses of soil as an underlying layer liquefies in a seismic event. The phenomenon that occurs when ground shaking causes loose soils to lose strength and act like viscous fluid. Liquefaction causes two types of ground failure: lateral spread and loss of bearing strength.
Liquefaction	Results when the soil supporting structures liquefies. This can cause structures to tip and topple.
Lowest Floor	Under the NFIP, the lowest floor of the lowest enclosed area (including basement) of a structure.
Magnitude	A measure of the strength of a hazard event. The magnitude (also referred to as severity) of a given hazard event is usually determined using technical measures specific to the hazard.
Mitigation Plan	A systematic evaluation of the nature and extent of vulnerability to the effects of natural hazards typically present in the state and includes a description of actions to minimize future vulnerability to hazards.
National Flood Insurance Program (NFIP)	Federal program created by Congress in 1968 that makes flood insurance available in communities that enact minimum floodplain management regulations in 44 CFR §60.3.
National Geodetic Vertical Datum of 1929 (NGVD)	Datum established in 1929 and used in the NFIP as a basis for measuring flood, ground, and structural elevations, previously referred to as Sea Level Datum or Mean Sea Level. The Base Flood Elevations shown on most of the Flood Insurance Rate Maps issued by the Federal Emergency Management Agency are referenced to NGVD.
National Weather Service (NWS)	Prepares and issues flood, severe weather, and coastal storm warnings and can provide technical assistance to Federal and state entities in preparing weather and flood warning plans.

Nor'easter	An extra-tropical cyclone producing gale-force winds and precipitation in the form of heavy snow or rain.
Outflow	Follows water inundation creating strong currents that rip at structures and pound them with debris, and erode beaches and coastal structures.
Planimetric	Describes maps that indicate only man-made features like buildings.
Planning	The act or process of making or carrying out plans; the establishment of goals, policies and procedures for a social or economic unit.
Probability	A statistical measure of the likelihood that a hazard event will occur.
Recurrence Interval	The time between hazard events of similar size in a given location. It is based on the probability that the given event will be equaled or exceeded in any given year.
Repetitive Loss Property	A property that is currently insured for which two or more National Flood Insurance Program losses (occurring more than ten days apart) of at least $1000 each have been paid within any 10-year period since 1978.
Replacement Value	The cost of rebuilding a structure. This is usually expressed in terms of cost per square foot, and reflects the present-day cost of labor and materials to construct a building of a particular size, type and quality.
Richter Scale	A numerical scale of earthquake magnitude devised by seismologist C.F. Richter in 1935.
Risk	The estimated impact that a hazard would have on people, services, facilities, and structures in a community; the likelihood of a hazard event resulting in an adverse condition that causes injury or damage. Risk is often expressed in relative terms such as a high, moderate or low likelihood of sustaining damage above a particular threshold due to a specific type of hazard event. It also can be expressed in terms of potential monetary losses associated with the intensity of the hazard.
Riverine	Of or produced by a river.
Scale	A proportion used in determining a dimensional relationship; the ratio of the distance between two points on a map and the actual distance between the two points on the earth's surface.
Scarp	A steep slope.
Scour	Removal of soil or fill material by the flow of flood waters. The term is frequently used to describe storm-induced, localized conical erosion around pilings and other foundation supports where the obstruction of flow increases turbulence.
Seismicity	Describes the likelihood of an area being subject to earthquakes.

Special Flood Hazard Area (SFHA)	An area within a floodplain having a 1 percent or greater chance of flood occurrence in any given year (100-year floodplain); represented on Flood Insurance Rate Maps by darkly shaded areas with zone designations that include the letter A or V.
Stafford Act	The Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-107 was signed into law November 23, 1988 and amended the Disaster Relief Act of 1974, PL 93-288. The Stafford Act is the statutory authority for most Federal disaster response activities, especially as they pertain to FEMA and its programs.
State Hazard Mitigation Officer (SHMO)	The representative of state government who is the primary point of contact with FEMA, other state and Federal agencies, and local units of government in the planning and implementation of pre- and post-disaster mitigation activities.
Storm Surge	Rise in the water surface above normal water level on the open coast due to the action of wind stress and atmospheric pressure on the water surface.
Structure	Something constructed. (See also Building)
Substantial Damage	Damage of any origin sustained by a structure in a Special Flood Hazard Area whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage.
Super Typhoon	A typhoon with maximum sustained winds of 150 mph or more.
Surface Faulting	The differential movement of two sides of a fracture – in other words, the location where the ground breaks apart. The length, width, and displacement of the ground characterize surface faults.
Tectonic Plate	Torsionally rigid, thin segments of the earth's lithosphere that may be assumed to move horizontally and adjoin other plates. It is the friction between plate boundaries that cause seismic activity.
Topographic	Characterizes maps that show natural features and indicate the physical shape of the land using contour lines. These maps may also include manmade features.
Tornado	A violently rotating column of air extending from a thunderstorm to the ground.
Tropical Cyclone	A generic term for a cyclonic, low-pressure system over tropical or subtropical waters.
Tropical Depression	A tropical cyclone with maximum sustained winds of less than 39 mph.
Tropical Storm	A tropical cyclone with maximum sustained winds greater than 39 mph and less than 74 mph.

Tsunami	Great sea wave produced by submarine earth movement or volcanic eruption.
Typhoon	A special category of tropical cyclone peculiar to the western North Pacific Basin, frequently affecting areas in the vicinity of Guam and the North Mariana Islands. Typhoons whose maximum sustained winds attain or exceed 150 mph are called super typhoons.
Vulnerability	Describes how exposed or susceptible to damage an asset is. Vulnerability depends on an asset's construction, contents, and the economic value of its functions. Like indirect damages, the vulnerability of one element of the community is often related to the vulnerability of another. For example, many businesses depend on uninterrupted electrical power – if an electric substation is flooded, it will affect not only the substation itself, but a number of businesses as well. Often, indirect effects can be much more widespread and damaging than direct ones.
Vulnerability Assessment	The extent of injury and damage that may result from a hazard event of a given intensity in a given area. The vulnerability assessment should address impacts of hazard events on the existing and future built environment.
Water Displacement	When a large mass of earth on the ocean bottom sinks or uplifts, the column of water directly above it is displaced, forming the tsunami wave. The rate of displacement, motion of the ocean floor at the epicenter, the amount of displacement of the rupture zone, and the depth of water above the rupture zone all contribute to the intensity of the tsunami.
Wave Runup	The height that the wave extends up to on steep shorelines, measured above a reference level (the normal height of the sea, corrected to the state of the tide at the time of wave arrival).
Wildfire	An uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures.
Zone	A geographical area shown on a Flood Insurance Rate Map (FIRM) that reflects the severity or type of flooding in the area.



SCALE: 1" = 120'-0"

0 40 100 150
10 80 120 200
GRAPHIC SCALE

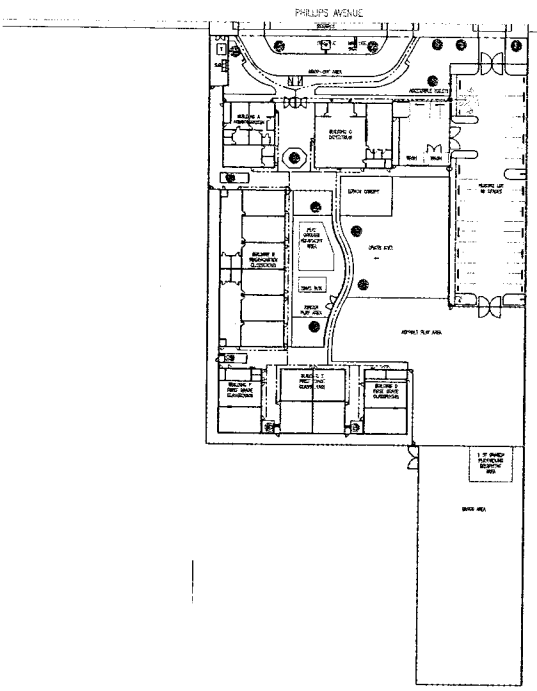
CAMPUS MAP

ALCOTT ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 120'-0"

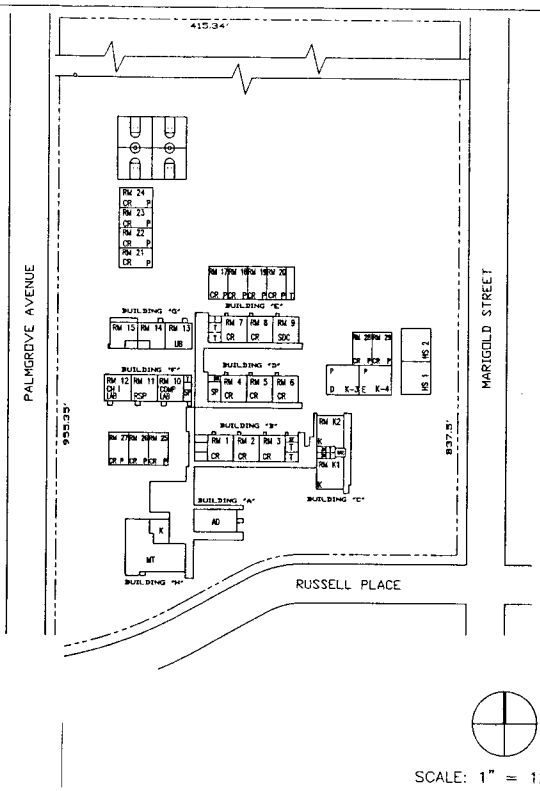
0 40 100 150
10 80 120 200
GRAPHIC SCALE

CAMPUS MAP

ALCOTT ANNEX ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1
DATE REVISED: 7/1/04



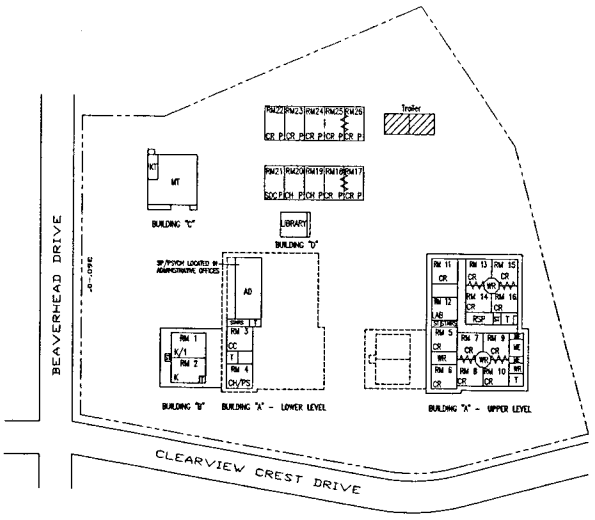
SCALE: 1" = 120'-0"

0 40 100 150
10 80 120 200
GRAPHIC SCALE

CAMPUS MAP

ALLISON ELEMENTARY SCHOOL
POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1
DATE REVISED: 7/1/04



SCALE: 1" = 120'-0"

0 40 100 150
10 80 120 200
GRAPHIC SCALE

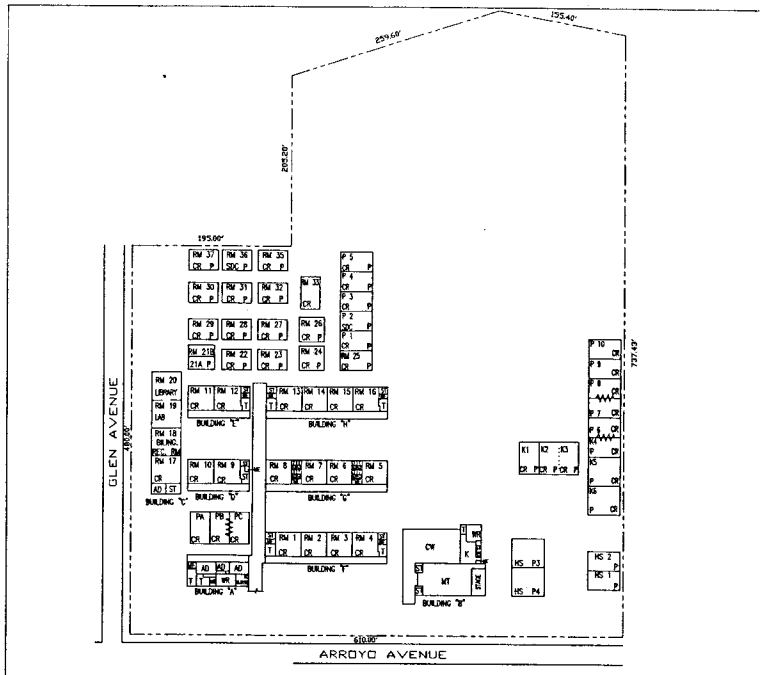
CAMPUS MAP

ARMSTRONG ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 120'-0"

0 40 100 150
10 80 120 200
GRAPHIC SCALE

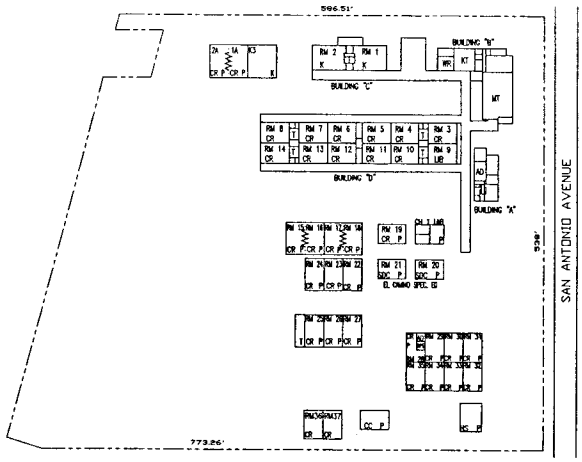
CAMPUS MAP

ARROYO ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 120'-0"

0 40 100 150
10 80 120 200
GRAPHIC SCALE

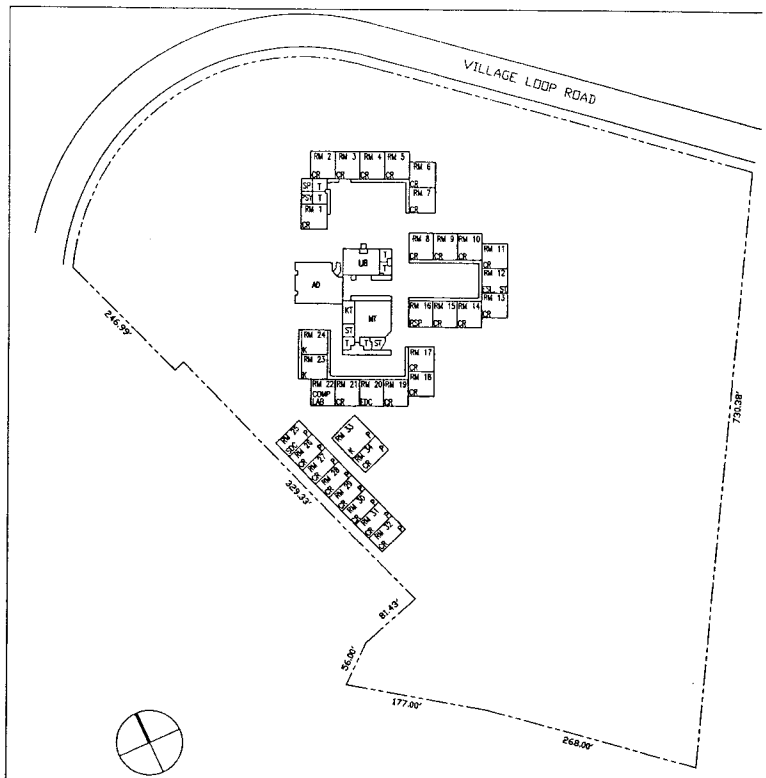
CAMPUS MAP

BARFIELD ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 120'-0"

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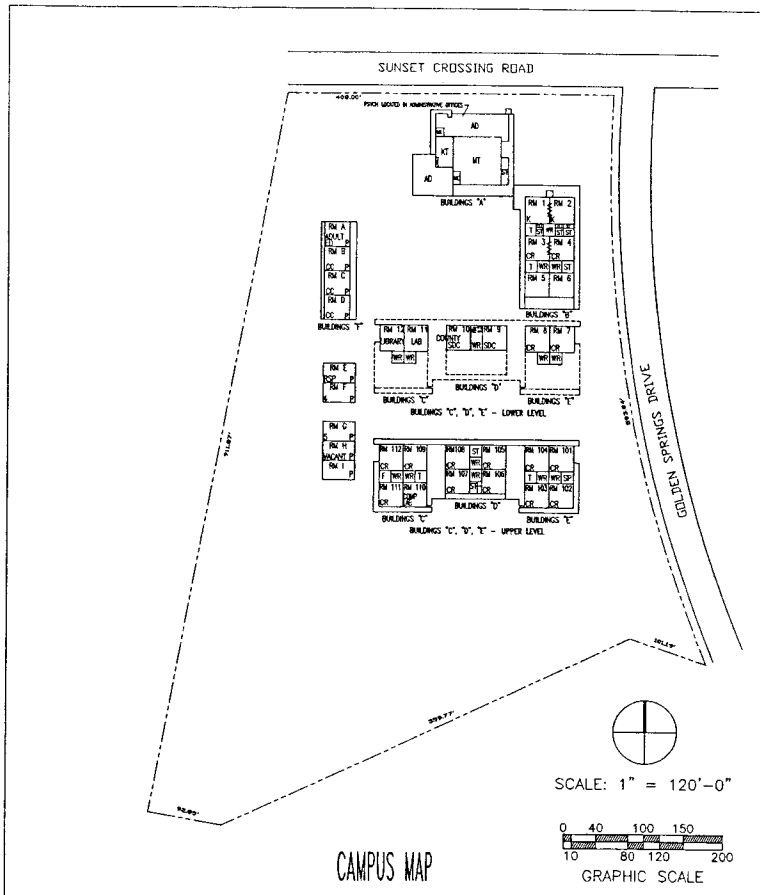
GRAPHIC SCALE

CAMPUS MAP

DECKER ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

DATE REVISED: 7/1/04



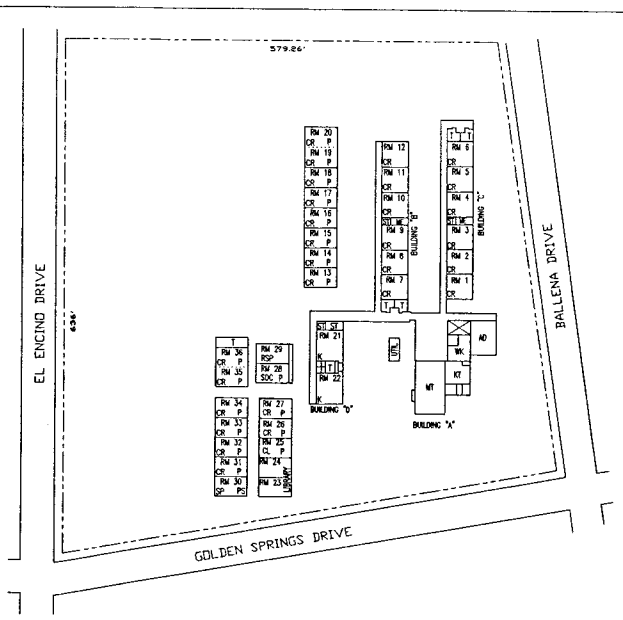
CAMPUS MAP

DIAMOND POINT ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 120'-0"

0 40 100 150
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GRAPHIC SCALE

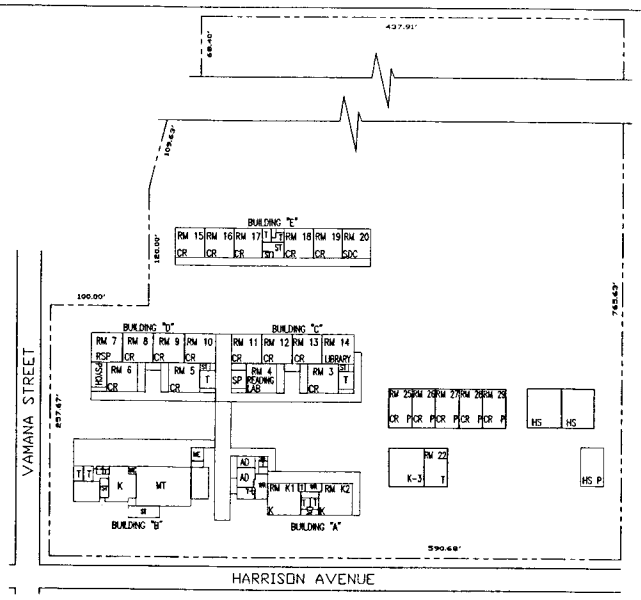
CAMPUS MAP

GOLDEN SPRINGS ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 100'-0"

0 40 100 150

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GRAPHIC SCALE

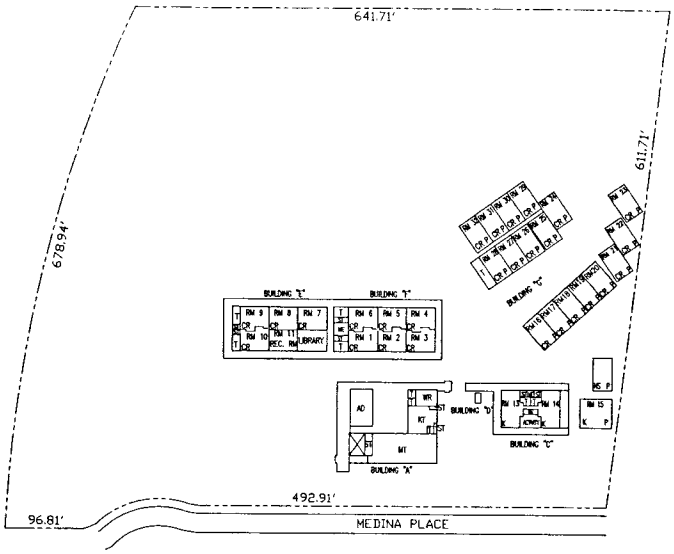
CAMPUS MAP

HARRISON ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 120'-0"

0 40 100 150
10 80 120 200
GRAPHIC SCALE

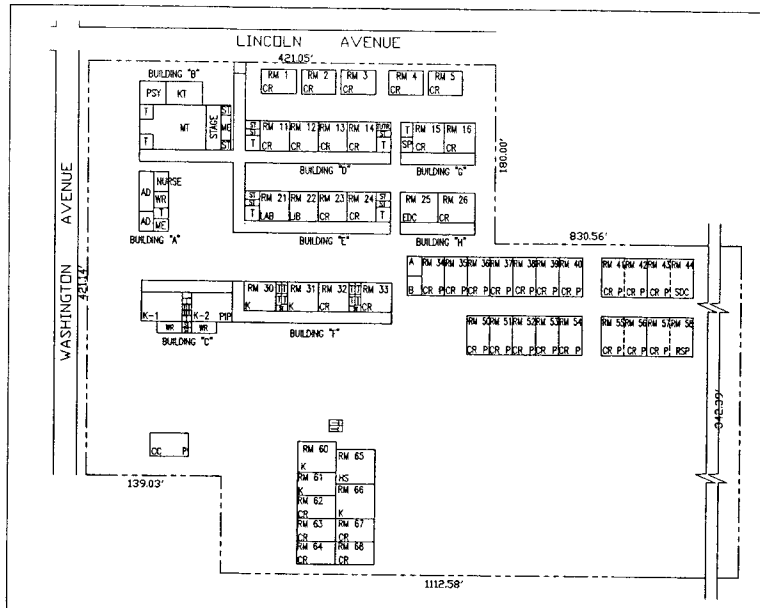
CAMPUS MAP

KELLOGG ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



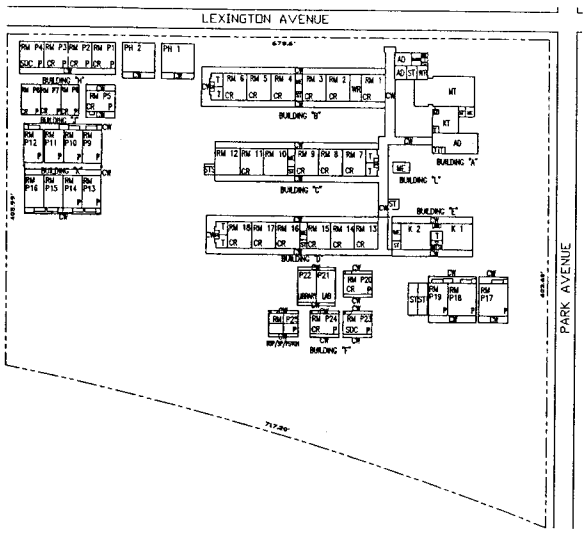
CAMPUS MAP

KINGSLEY ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 120'-0"

0 40 100 150
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GRAPHIC SCALE

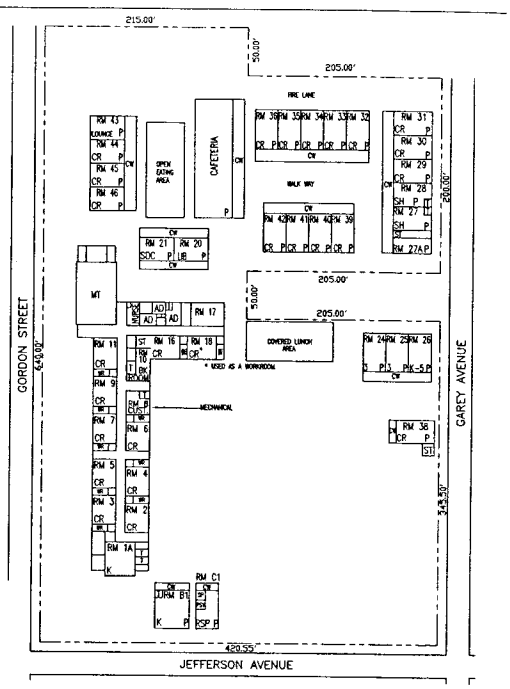
CAMPUS MAP

LEXINGTON ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/01/04



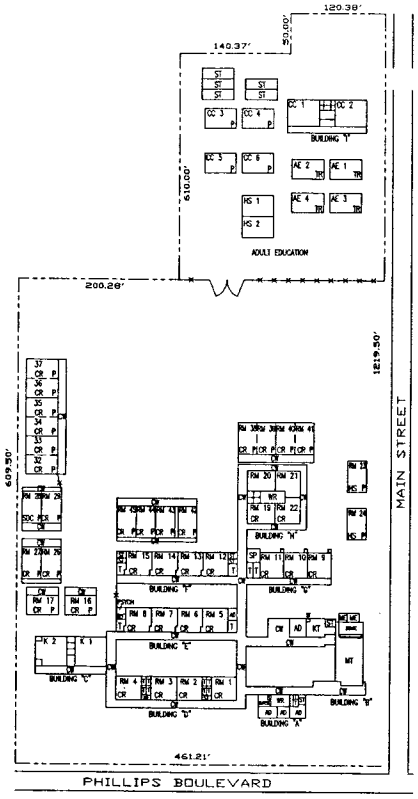
CAMPUS MAP

LINCOLN ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



CAMPUS MAP

SCALE: 1" = 120'-0"

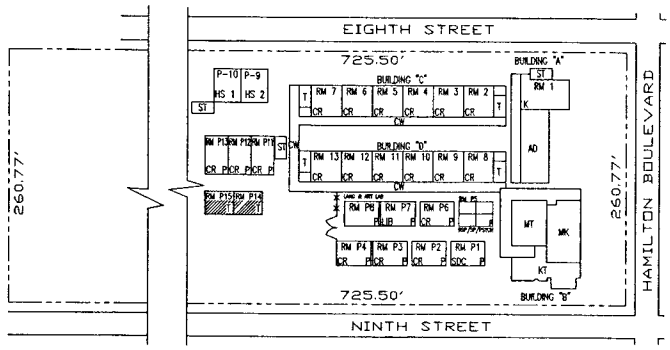
0 40 100 150
10 80 120 200
GRAPHIC SCALE

MADISON ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 100'-0"

0 40 100 150
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GRAPHIC SCALE

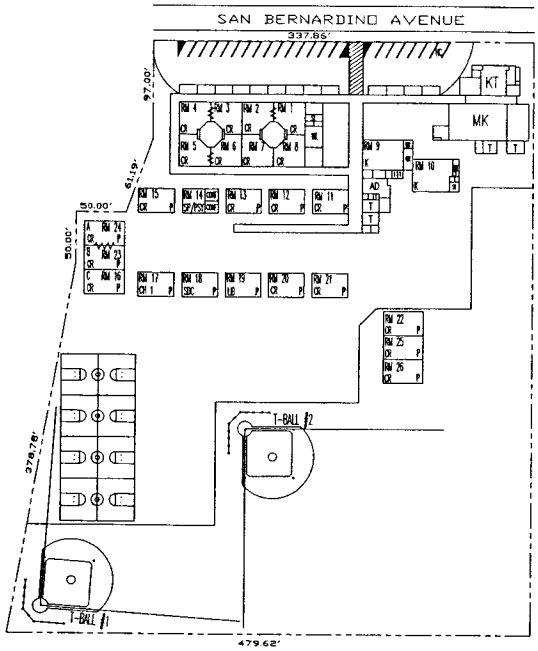
CAMPUS MAP

MENDOZA ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



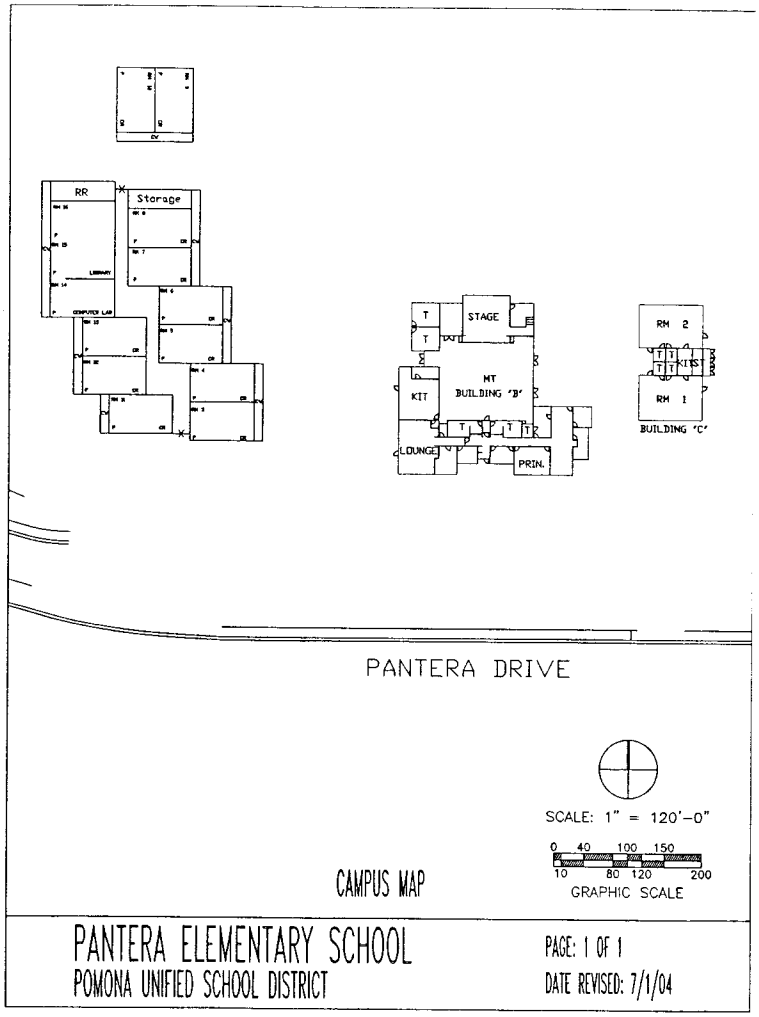
0 40 100 150
10 80 120 200
GRAPHIC SCALE

CAMPUS MAP

SCALE: 1" = 100'-0"

MONTVUE ELEMENTARY SCHOOL
POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1
DATE REVISED: 7/1/04



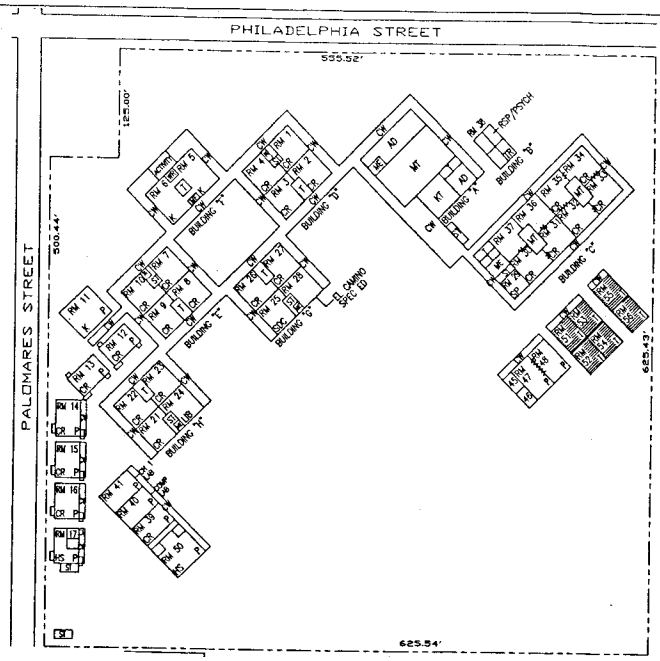
CAMPUS MAP

PANTERA ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 100'-0"

0 40 100 150
10 80 120 200
GRAPHIC SCALE

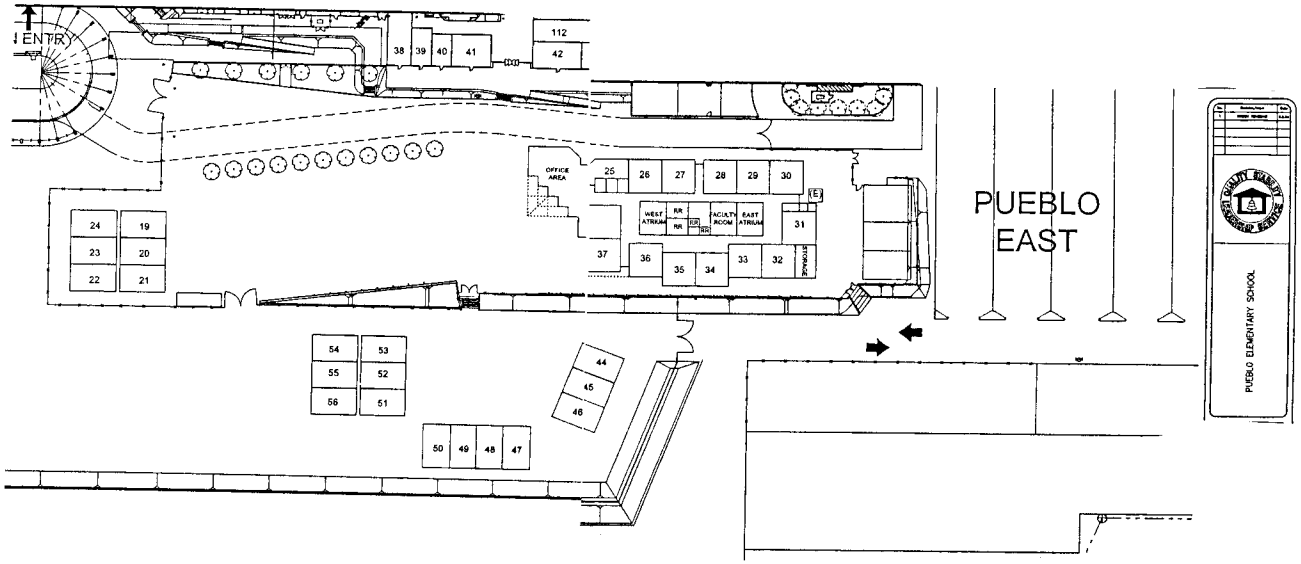
CAMPUS MAP

PHILADELPHIA ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04


ENTR
38
39
40
41
112
42
OFFICE AREA
25
26
27
28
29
30
WEST ATRIUM
RR
RR
RR
FACULTY ROOM
EAST ATRIUM
31
37
36
35
34
33
32
STORAGE
24
19
23
20
22
21
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46
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49
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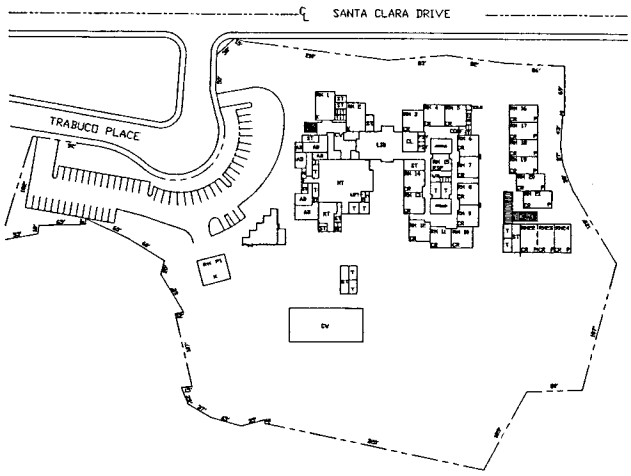
47
PUEBLO EAST
PUEBLO ELEMENTARY SCHOOL



SCALE: 1" = 120'-0"

0 40 100 150
10 80 120 200
GRAPHIC SCALE

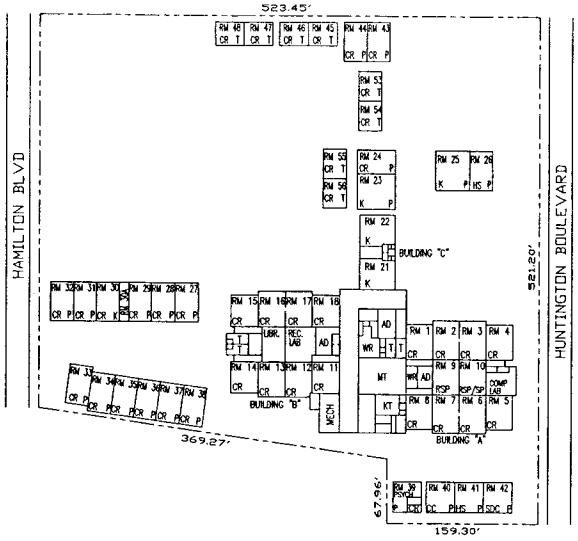
CAMPUS MAP

RANCH HILLS ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 100'-0"

0 40 100 150
10 80 120 200
GRAPHIC SCALE

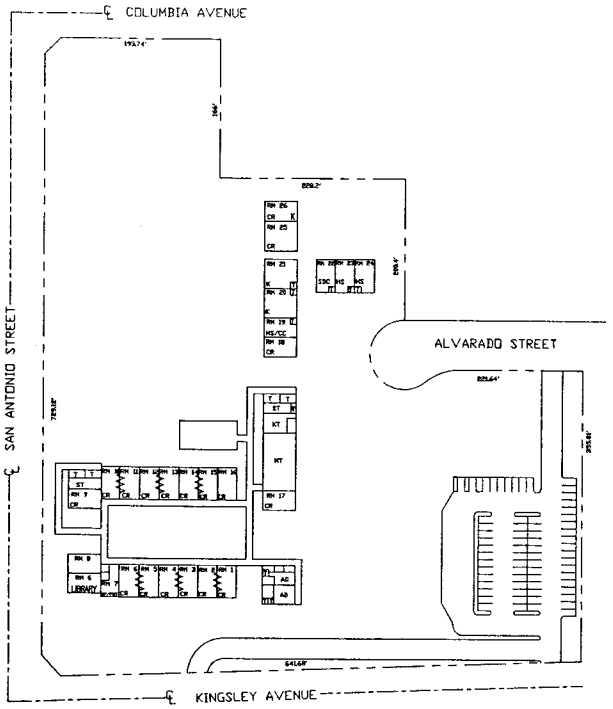
CAMPUS MAP

ROOSEVELT ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 120'-0"

0 40 100 150
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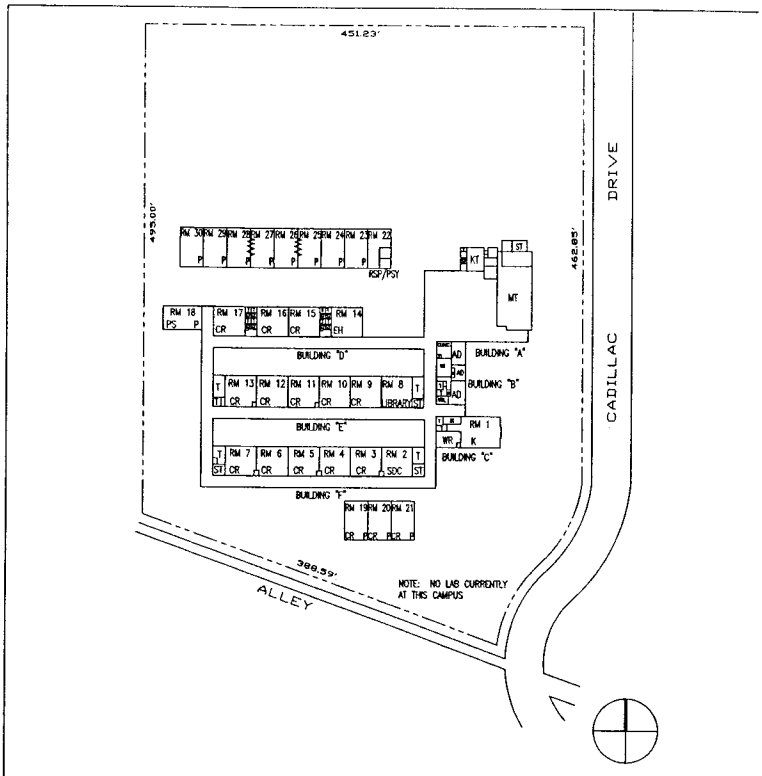
GRAPHIC SCALE

CAMPUS MAP

SAN ANTONIO ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

DATE REVISED: 7/1/04



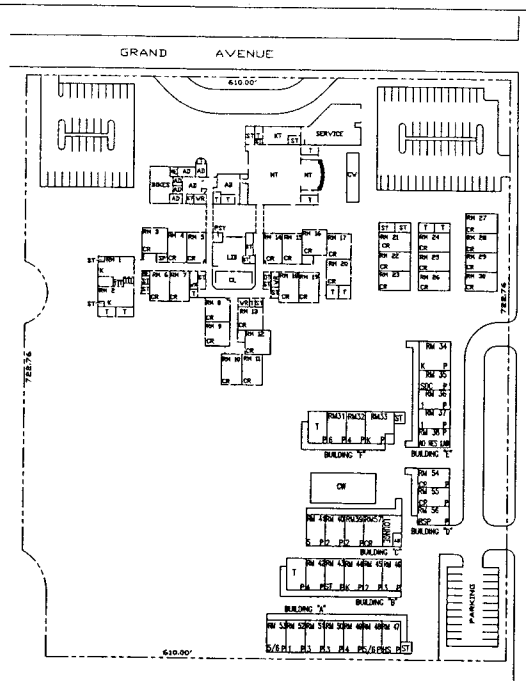
CAMPUS MAP

SAN JOSE ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 120'-0"

0 40 100 150
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GRAPHIC SCALE

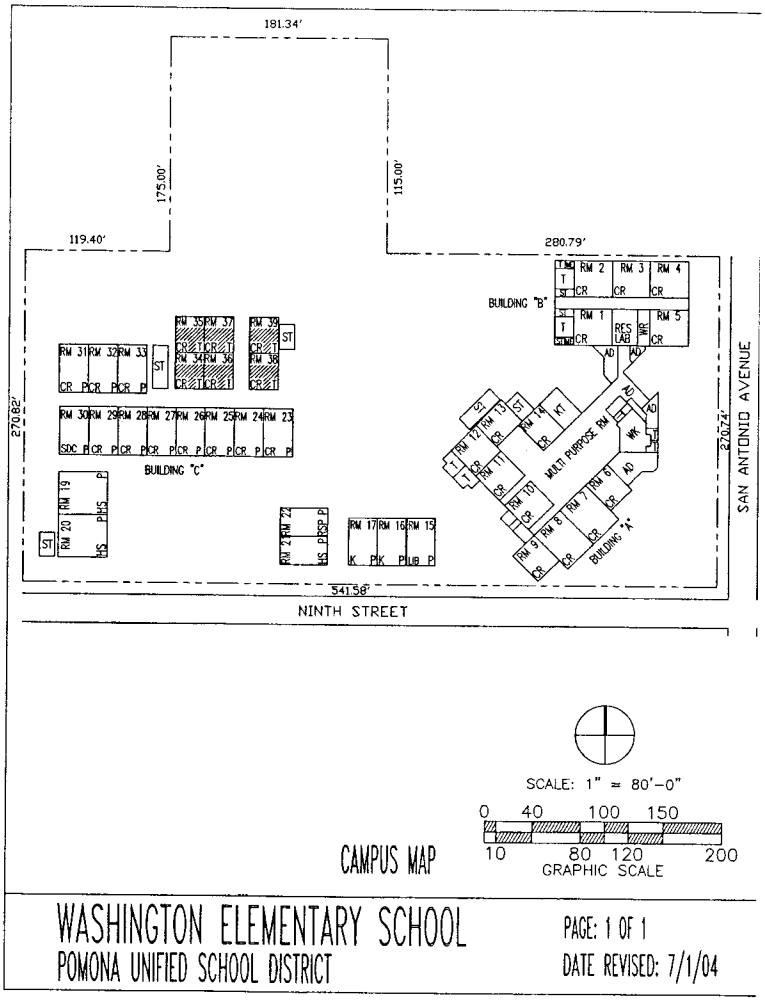
CAMPUS MAP

VEJAR ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



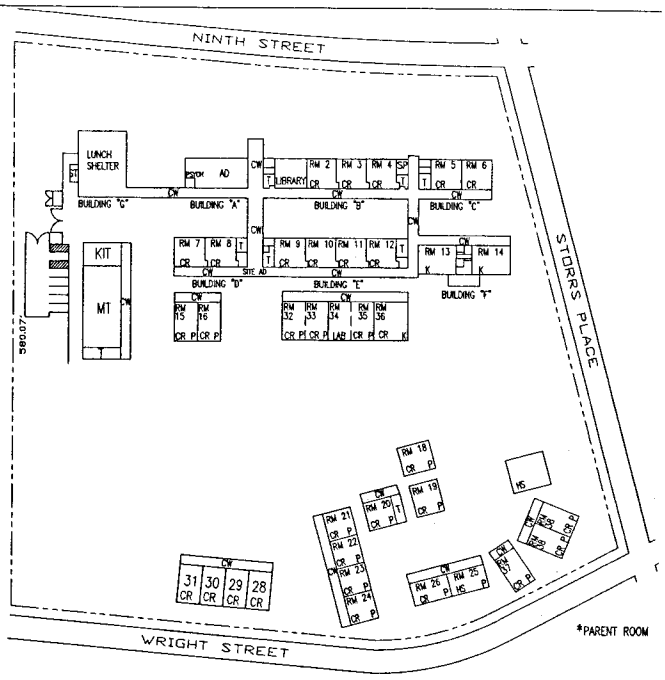
CAMPUS MAP

WASHINGTON ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 100'-0"

0 40 100 150
10 80 120 200
GRAPHIC SCALE

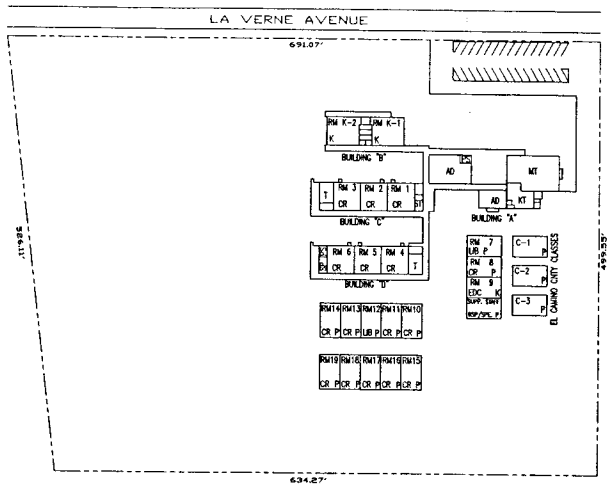
CAMPUS MAP

WESTMONT ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



CAMPUS MAP

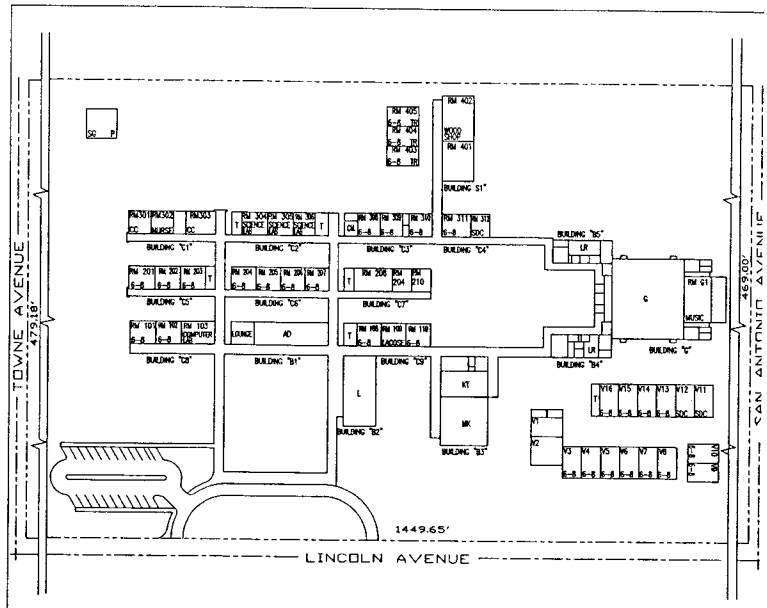
0 40 100 150
10 80 120 200

YORBA ELEMENTARY SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



NO NEW PORTABLES FOR 1997

SCALE: 1" = 120'-0"

0 40 100 150
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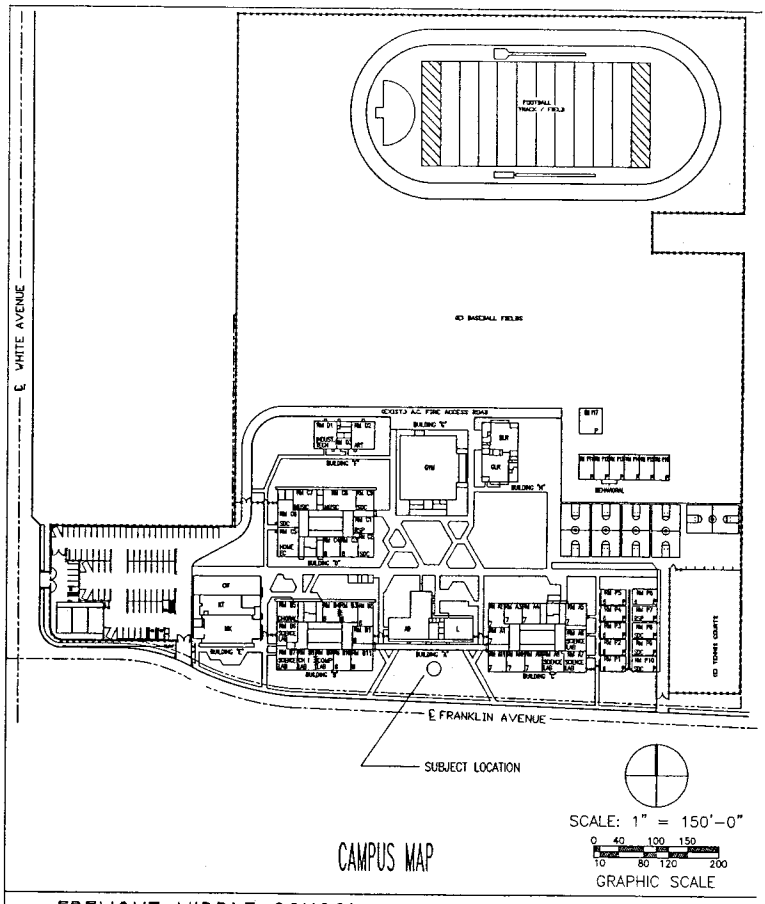
GRAPHIC SCALE

CAMPUS MAP

EMERSON MIDDLE SCHOOL
POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1
DATE REVISED: 7/1/04



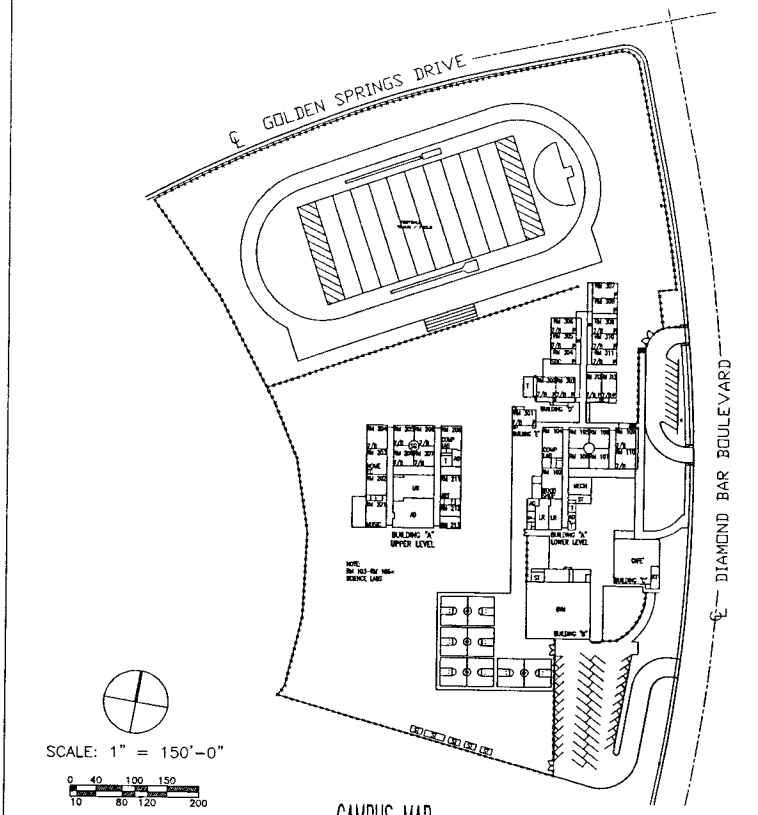
CAMPUS MAP

FREMONT MIDDLE SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



CAMPUS MAP

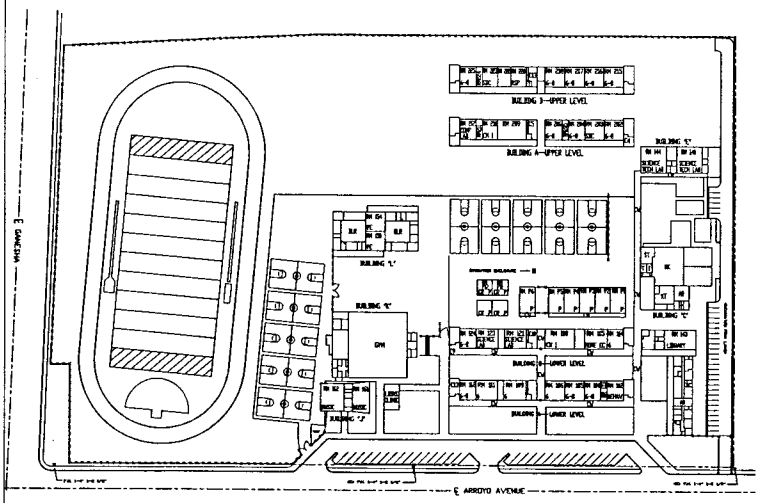
NO NEW PORTABLES FOR 1997

LORBEER MIDDLE SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 150'-0"

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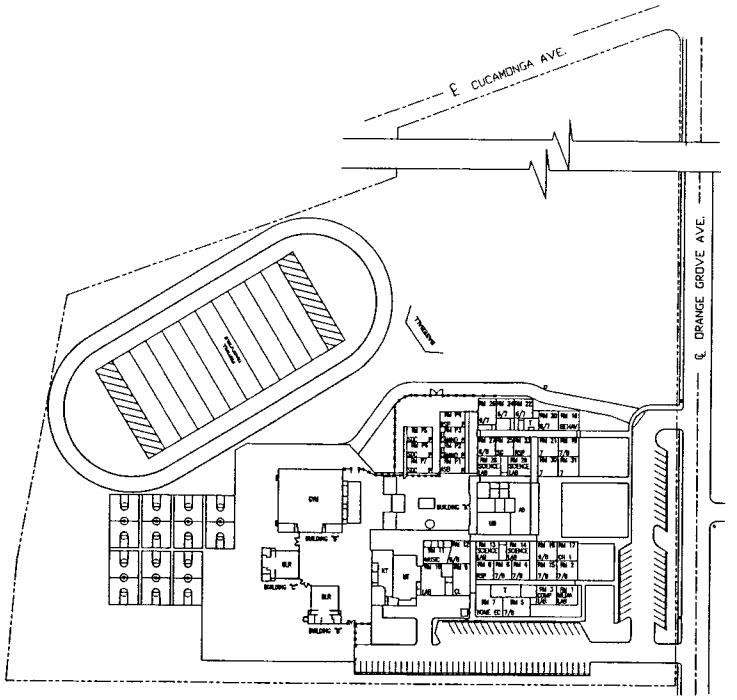
GRAPHIC SCALE

CAMPUS MAP

MARSHALL MIDDLE SCHOOL
POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1
DATE REVISED: 7/1/04



SCALE: 1" = 150'-0"

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GRAPHIC SCALE

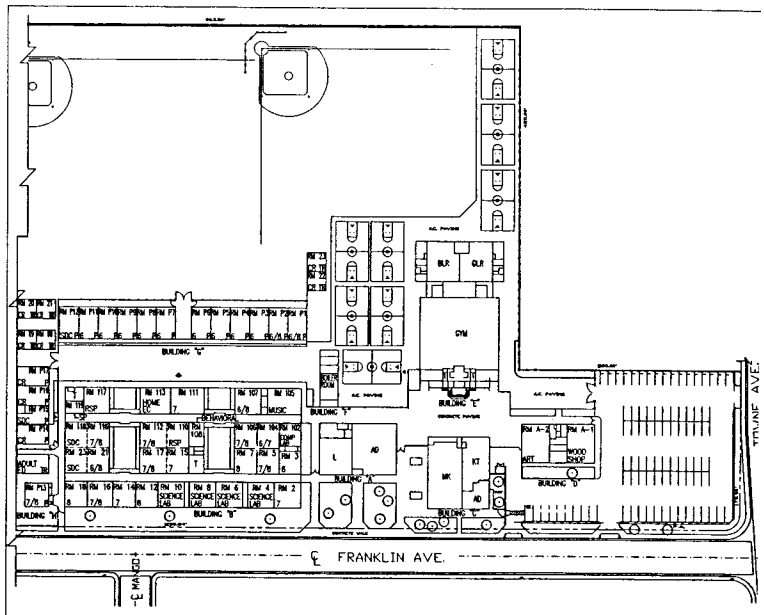
CAMPUS MAP

PALOMARES MIDDLE SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



SCALE: 1" = 120'-0"

0 40 100 150
10 80 120 200
GRAPHIC SCALE

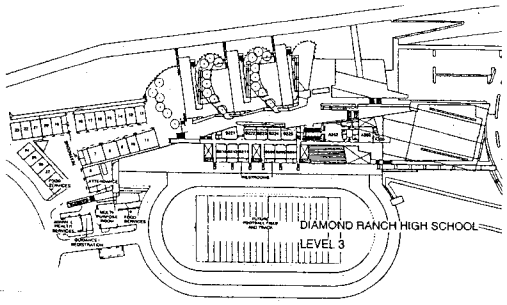
CAMPUS MAP

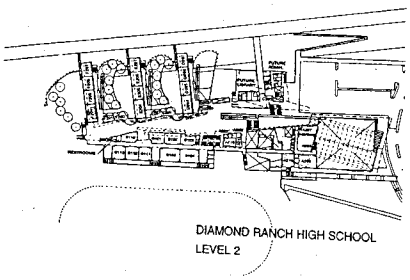
SIMONS MIDDLE SCHOOL

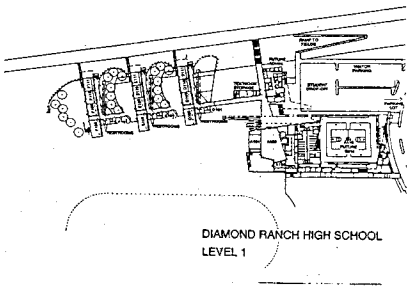
POMONA UNIFIED SCHOOL DISTRICT

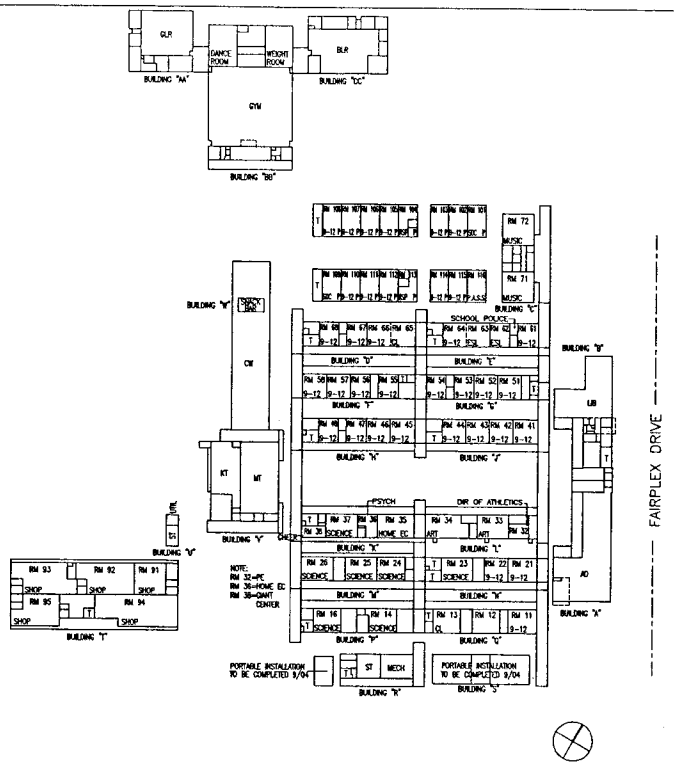
PAGE: 1 OF 1

DATE REVISED: 7/1/04


DIAMOND RANCH HIGH SCHOOL
LEVEL 3


DIAMOND RANCH HIGH SCHOOL
LEVEL 2


DIAMOND RANCH HIGH SCHOOL
LEVEL 1

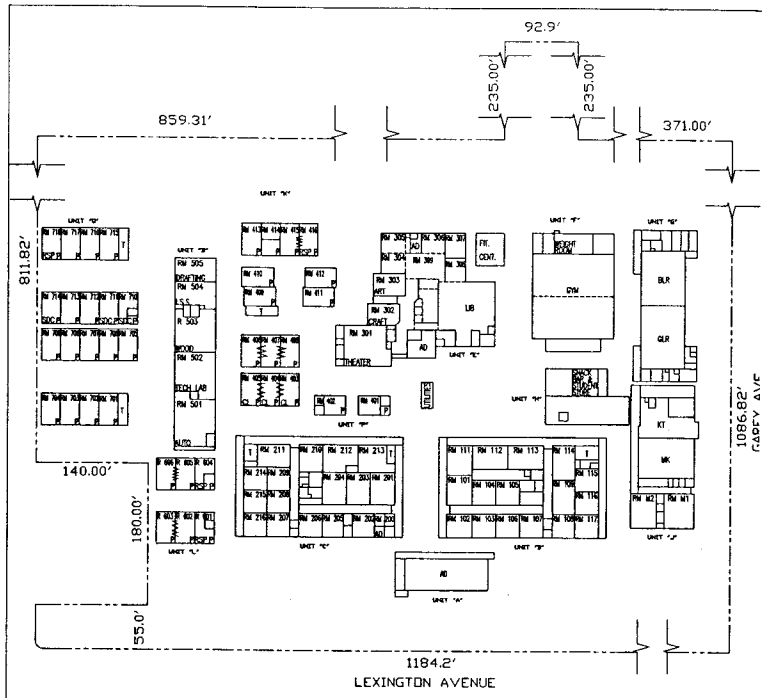


CAMPUS MAP

GANESHA HIGH SCHOOL
POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04



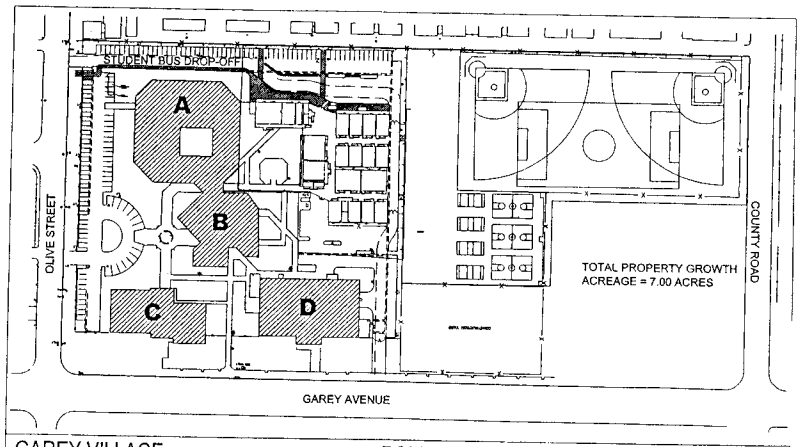
CAMPUS MAP

GAREY HIGH SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

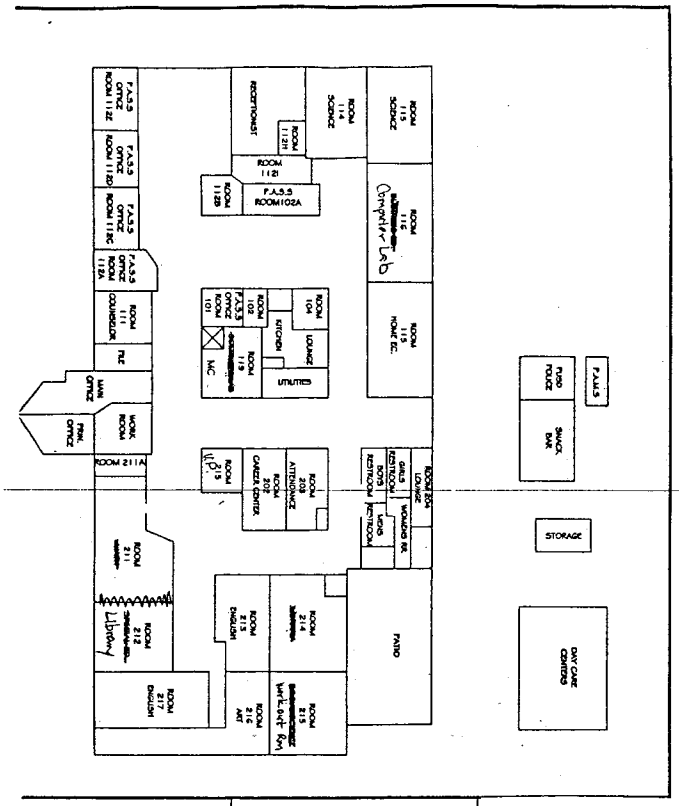
PAGE: 1 OF 1

DATE REVISED: 7/1/04

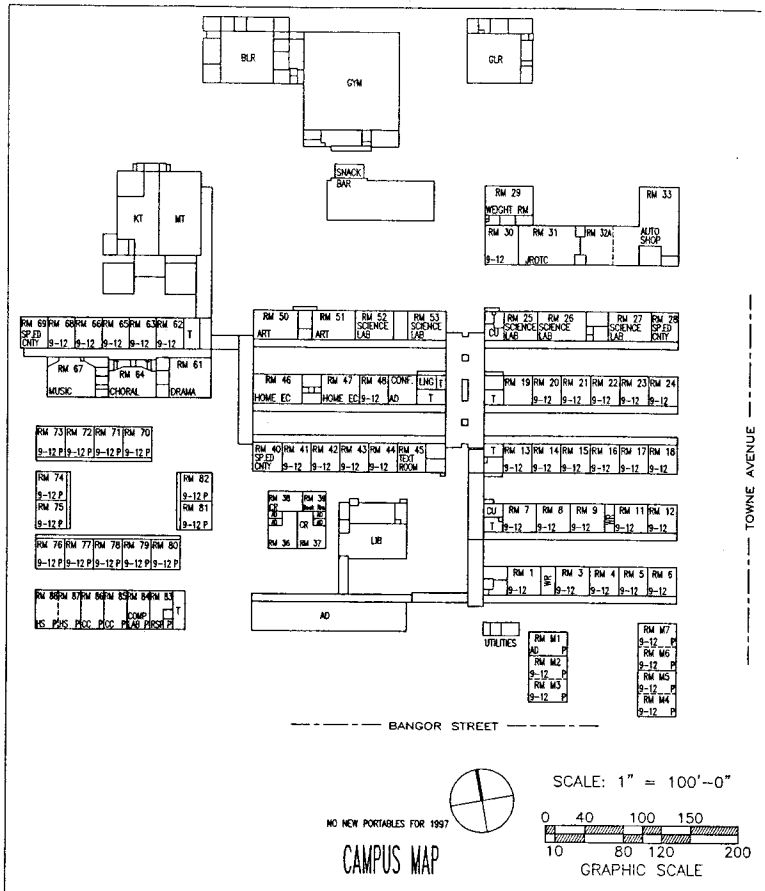


GAREY VILLAGE

POMONA UNIFIED SCHOOL DISTRICT



POMONA UNIFIED
SCHOOL DISTRICT
PARK WEST HIGH SCHOOL
1540 W. SECOND STREET
POMONA, CA 91766

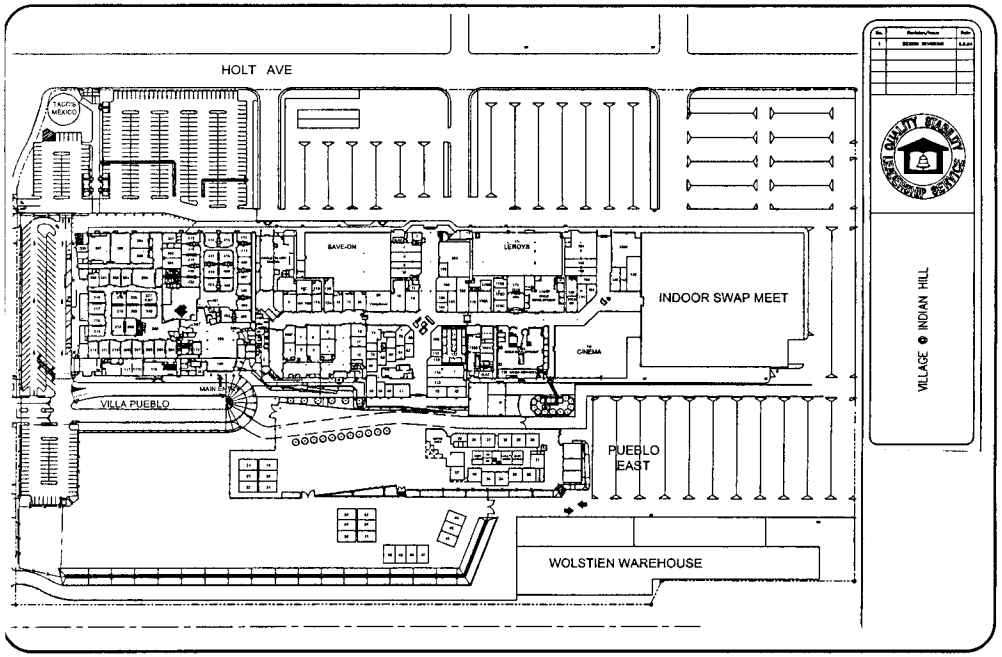


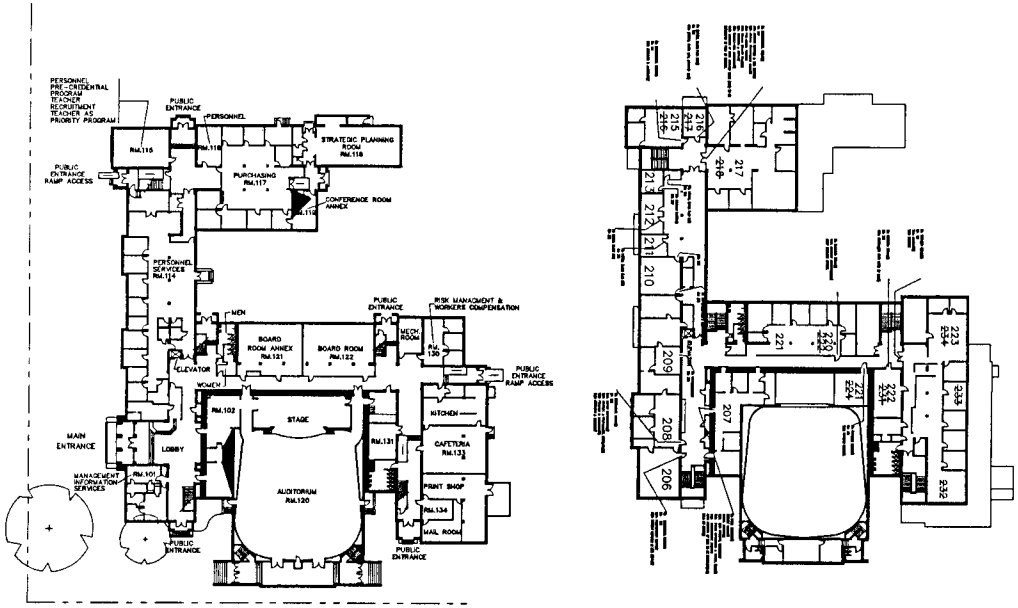
POMONA HIGH SCHOOL

POMONA UNIFIED SCHOOL DISTRICT

PAGE: 1 OF 1

DATE REVISED: 7/1/04

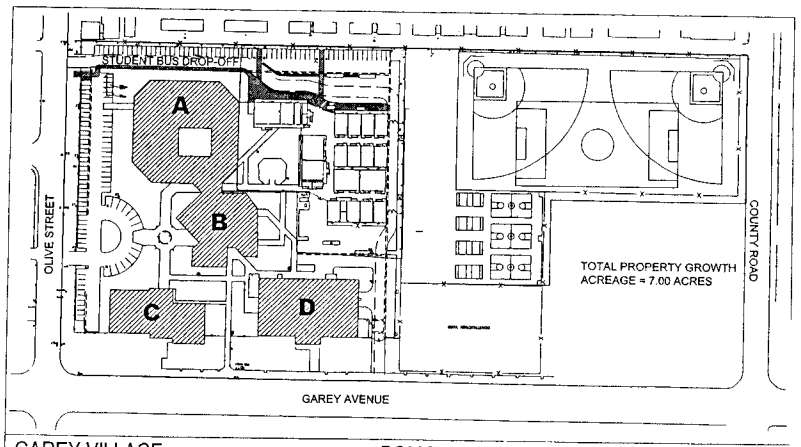

HOLT AVE
SAVE-ON
LEROYS
CINEMA
INDOOR SWAP MEET
VILLA PUEBLO
PUEBLO EAST
WOLSTIEN WAREHOUSE
VILLAGE @ INDIAN HILL



1st FLOOR

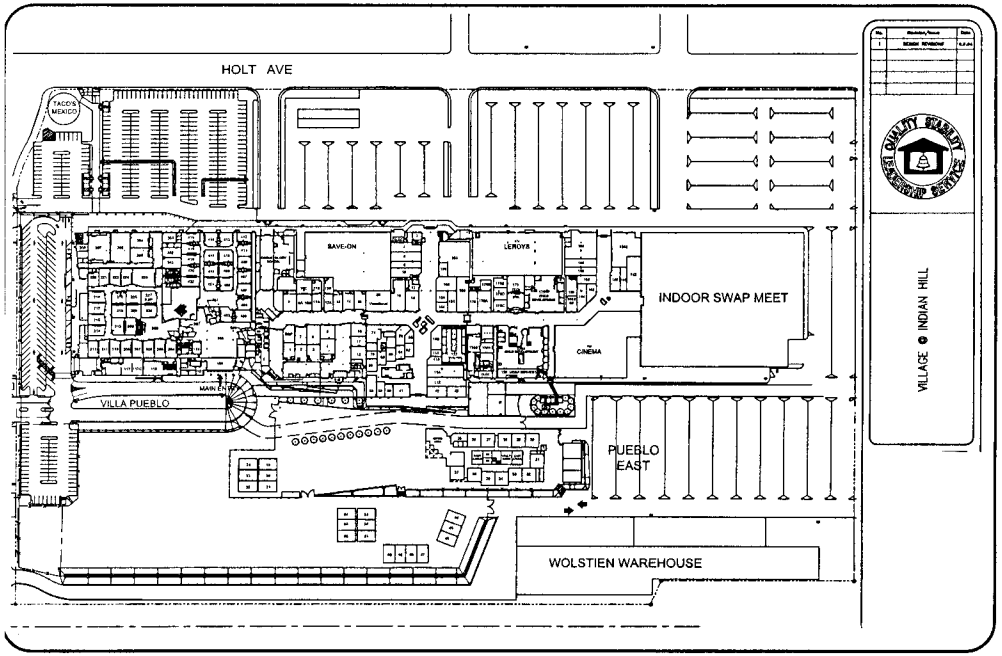
2nd FLOOR

EDUCATION CENTER



GAREY VILLAGE

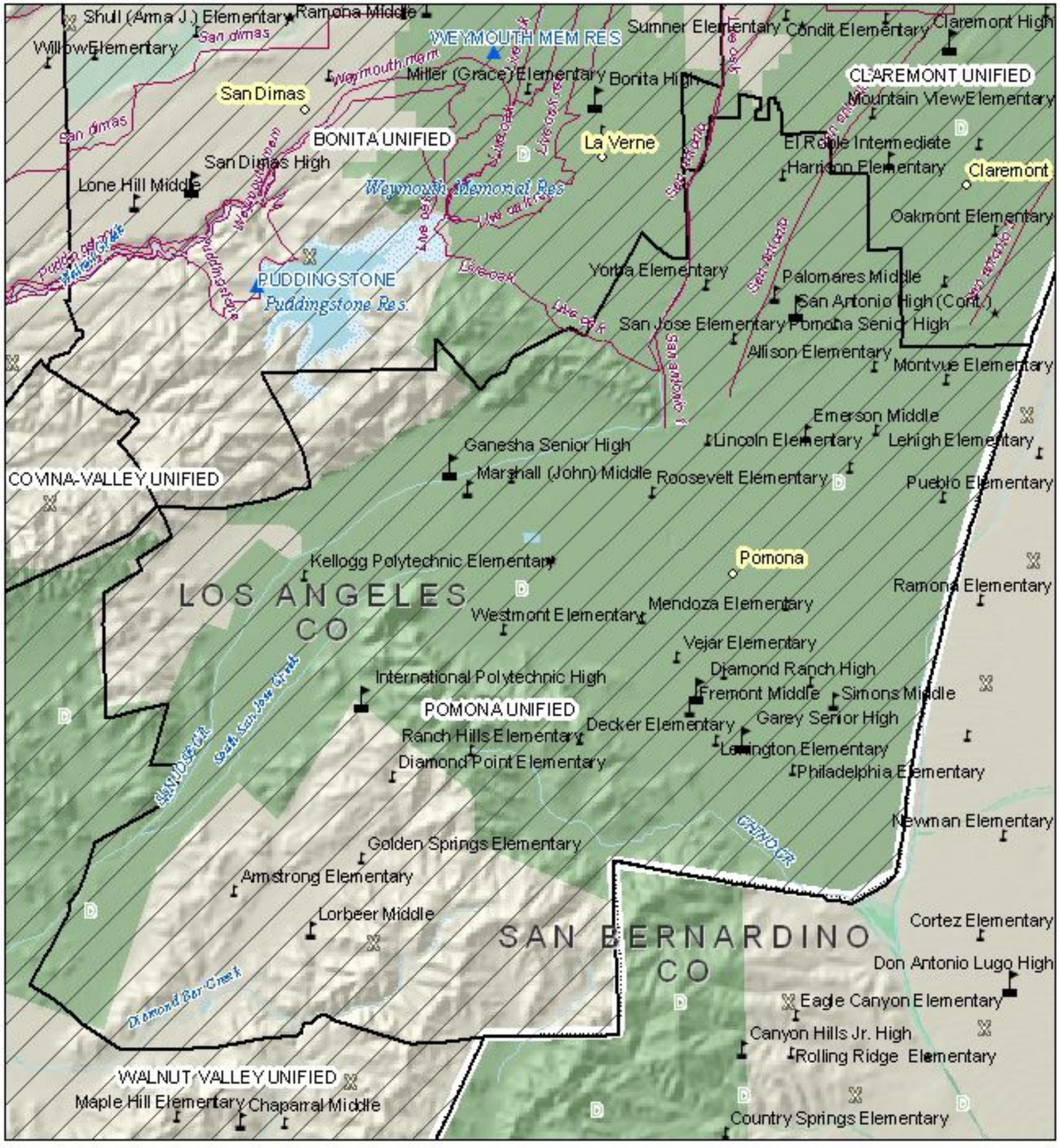
POMONA UNIFIED SCHOOL DISTRICT


HOLT AVE
SAVE-ON
LEROYS
INDOOR SWAP MEET
CINEMA
VILLA PUEBLO
PUEBLO EAST
WOLSTIEN WAREHOUSE
VILLAGE @ INDIAN HILL

School Districts and FEMA Flood Zones and Dam Inundation Areas

POMONA UNIFIED

Apr 01, 2004



Legend

FEMA Flood Insurance Rate (FIRM) Zones
- A - 100 Year Zone
- AO - 100 Year Sheet Flow
- V - 100 Year w Velocity Hazard (Wave Action)
- X500 - 500 Year and 100 Yr w Depth < 1 Ft
- D - Undetermined, but Possible Flood Hazards
- UNDES - Body of Open Water, with No Defined Flood Haz
- ANI - Not Mapped
- X - Outside 100 and 500 Yr Flood
- Dam Inundation Areas
- Dams
- United School Dist. - LA Co.

Schools
- ELEMENTARY
- JUNIOR HIGH; MIDDLE
- HIGH SCHOOL
- Other

- Counties
- Cities

0 0.5 1 Miles

Data Source:
Federal Emergency Management Agency (FEMA)
Flood Insurance Rate Maps (FIRM)
http://hazardmaps.gov

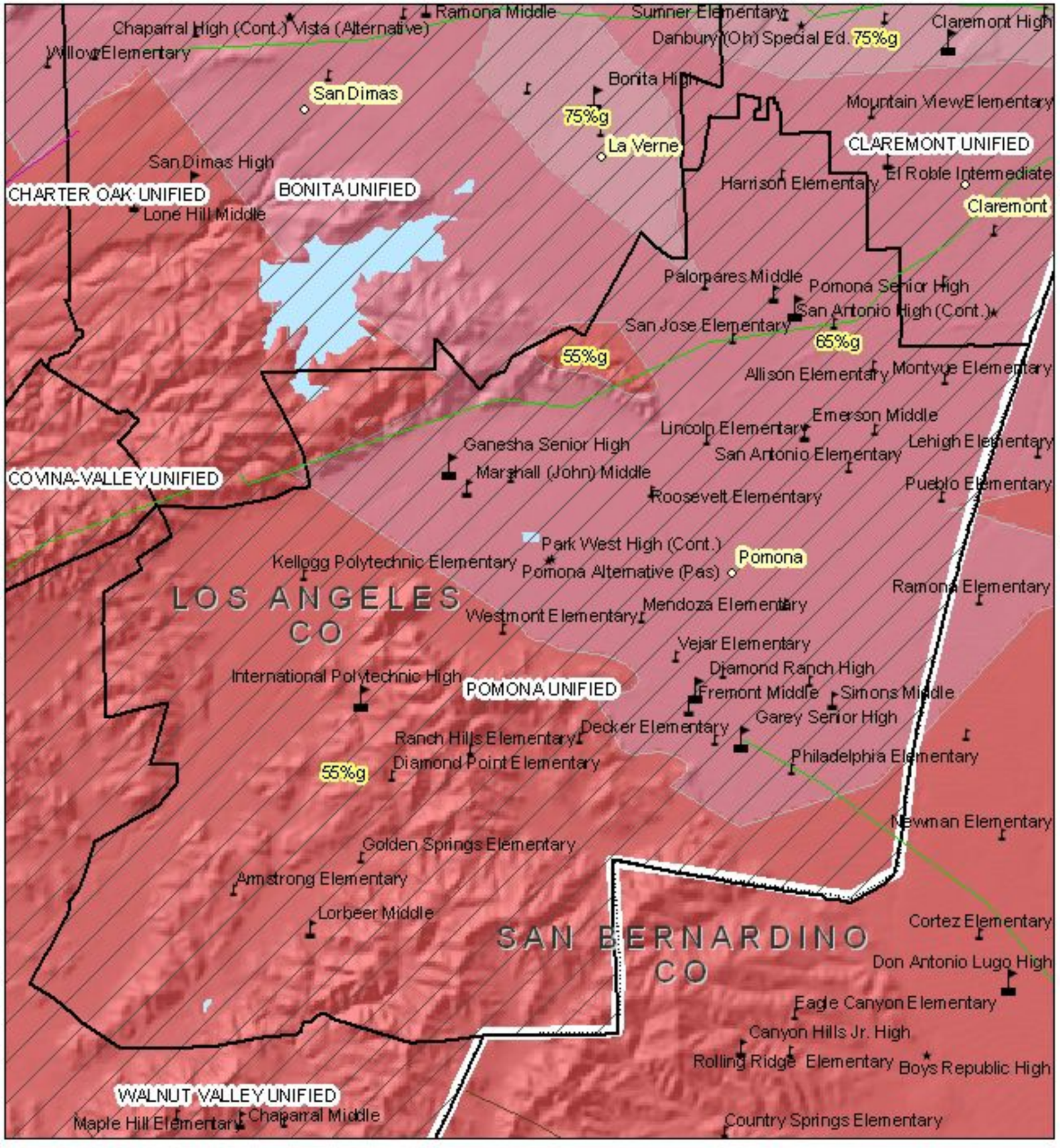
FEMA

Map Prepared by Office of Emergency Services
Information Technology Branch, Geographic Information Systems
Document d:\data\hazard\mitigation\multi-hazard_by_county\School_dist_Prob_Shaking_map_book.mxd.
akilgore

School Districts and Probablistic Earthquake Shaking Intensity

POMONA UNIFIED

Apr 01, 2004



Legend

10% Probability in 50 Years

Spec. Acelleration, one sec. freq.

- 0 - 10% gravity (Least Shaking)
- 11 - 20% gravity
- 21 - 30% gravity
- 31 - 40% gravity
- 41 - 50% gravity
- 51 - 60% gravity
- 61 - 70% gravity
- 71 - 80% gravity
- 81 - 175% gravity (Greatest Shaking)

Fault Lines by Age

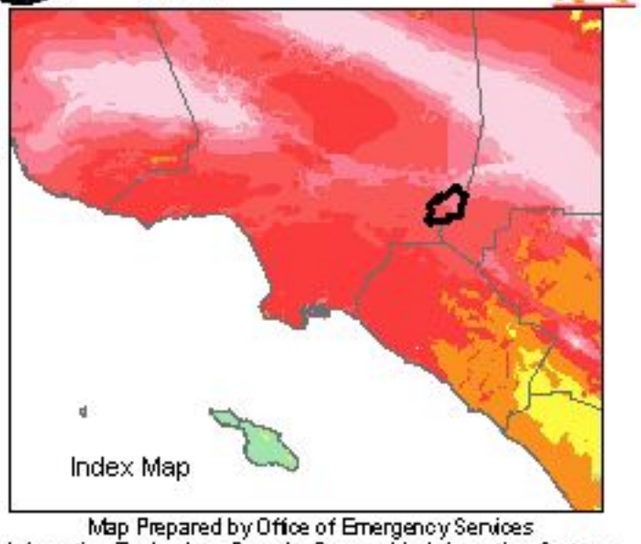
- Historic (0-200)
- Holocene (200-10,000)
- Late Quaternary (10,000-700,000)
- Early Quaternary (700,000-2 Mill)
- Pre-Quaternary (prior to 2 Mill)

- Unif. School Dist. - LA Co

Schools

- ELEMENTARY
- JUNIOR HIGH; MIDDLE
- HIGH SCHOOL
- Other
- Counties
- Cities

Data Source:
Revised 2002 California Probabilistic
Seismic Hazards Map June 2003
Calif. Geological Survey.
http://www.consrv.ca.gov/CGS/rghm/pshai/index.htm

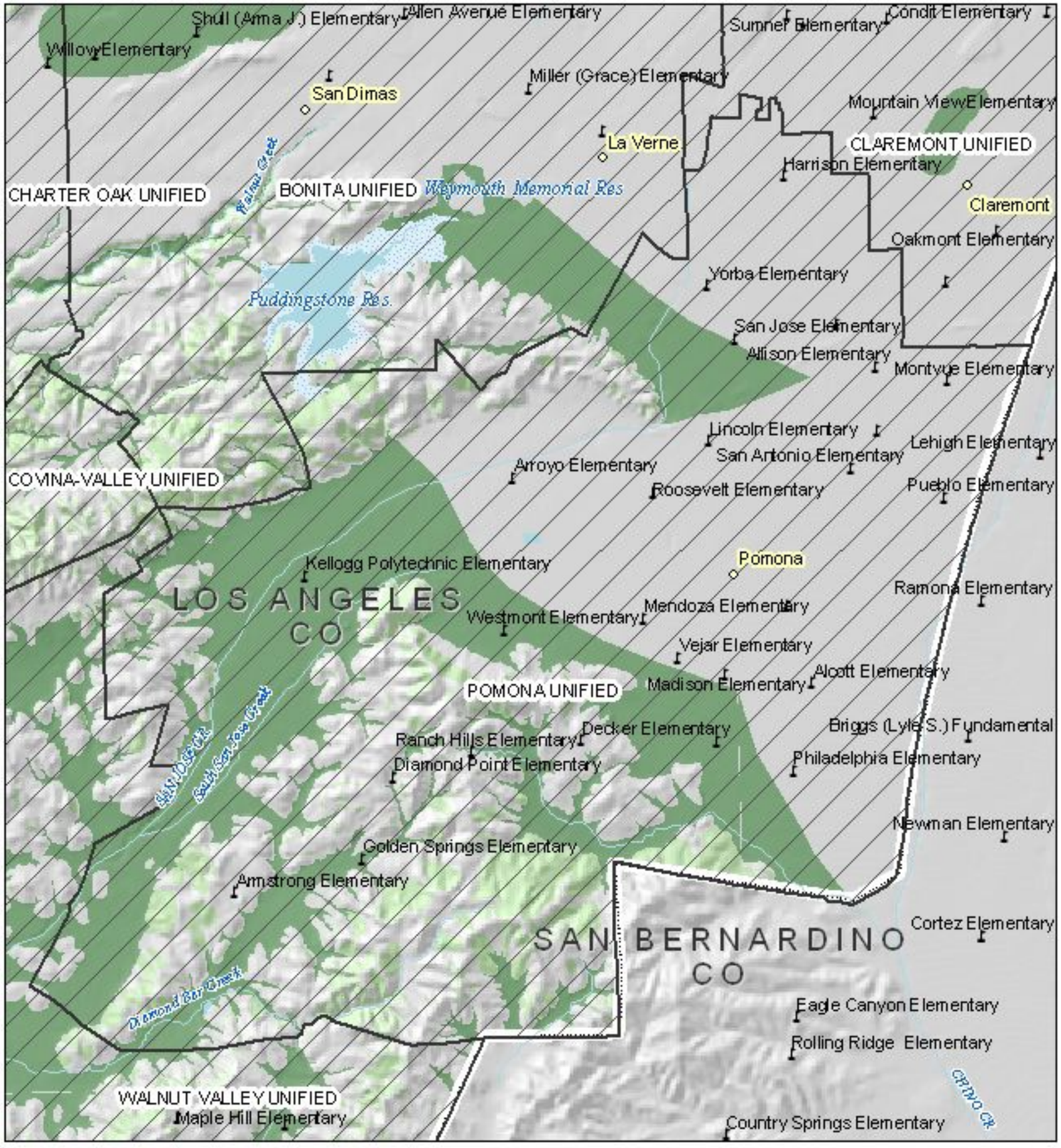


Map Prepared by Office of Emergency Services
Information Technology Branch, Geographic Information Systems
Document: d:\data\hazard\mitigation\multi-hazard_by_county\School_dist_Prob_Shaking_map_book.mxd.
akilgore

School Districts and Soil Liquefaction Potential and Landslide Hazard Zones

POMONA UNIFIED

Apr 01, 2004



Legend

- Soil Liquefaction Potential
- Landslide Hazard
- Unified School Dist.- LA Co.

Schools

- ELEMENTARY
- SPECIAL ED
- Counties
- Cities

0 0.5 1 Miles

Data Source:
California Geological Survey
Seismic Hazards Mapping Program
http://gmw.consrv.ca.gov/shmp/

Map Prepared by Office of Emergency Services
Information Technology Branch, Geographic Information Systems
Document: d:\data\hazard\mitigation\multi-hazard_by_county\School_dist_Prob_Shaking_map_book.mxd.
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School Districts and Wildland Fire Threat

POMONA UNIFIED

Apr 01, 2004

Legend

Wildland Fire Threat (CDF v2.04 2003)

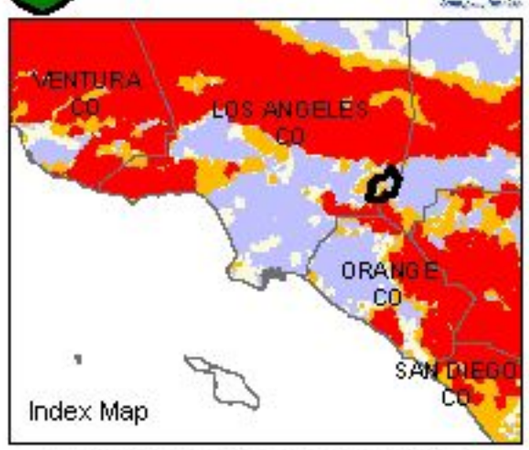
- Little to No Threat
- Within 2400m of Moderate Threat
- Within 2400m of High Threat
- Within 2400m of Very High Threat
- Within 2400m of Extreme Threat
- United School Districts - LA Co

Schools

- ELEMENTARY
- JUNIOR HIGH; MIDDLE
- HIGH SCHOOL
- Other
- Counties
- Cities

0 0.5 1 Miles

Data Source:
Calif. Dept. of Forestry and Fire Protection
Wildland Fire Threat v 2_04 (2003)
http://frap.cdf.ca.gov



Map Prepared by Office of Emergency Services
Information Technology Branch, Geographic Information Systems
Document:d:\data\hazard\mitigation\multi-hazard_by_county\School_dist_Los Angeles_County_United_Wildfire_map_book.mxd.
akilgore

LOS ANGELES CO
COVINA-VALLEY UNIFIED
BONITA UNIFIED
CHARTER OAK UNIFIED
POMONA UNIFIED
CLAREMONT UNIFIED
SAN BERNARDINO CO
WALNUT VALLEY UNIFIED

POMONA UNIFIED SCHOOL DISTRICT

School District: Pomona Unified School District										
August 12, 2004				Hazard: Earthquake					Worksheet A	
Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People			
	# in District	# in Hazard Area	% in Hazard Area	$ in District	$ in Hazard Area	% in Hazard Area	# in District	# in Hazard Area	% in Hazard Area	
School District:	45	45	100%	$ 310,156,709	$ 310,156,709	100%	40,000	40,000	100%	
Totals:	45	45	100%	$ 310,156,709	$ 310,156,709	100%	40,000	40,000	100%	

The actual building value in the District should include the up-to-date total for replacement value, contents, and any fixed assets that were not included in the ASCIP/American Appraisal Associates building appraisal.

The "in hazard area" results will be better developed once the multi-hazard map is completed.

POMONA UNIFIED SCHOOL DISTRICT

School District: Pomona Unified School District

August 12, 2004 — **Hazard:** Earthquake — **Worksheet B**

	Name or Description of Asset	Sources of Information	Critical Facility	Vulnerable Population	Economic Assets	Special Considerations	Historic/Other Considerations	Building Size (square feet in thousands)	Replacement Value Amount (in thousands)	Contents Value Amount (in thousands)	Functional Use or Value (at $91 per sq. ft.) (in thousands) A	Displacement Cost ($ per day) (in thousands) B	Occupancy or Capacity (Count) C	Other Hazard Specific Information
			X	X	X	X	X							
1	Alcott Elementary	AAA, Inc	x	x	x			52,132	$ 6,248,815	$ 1,384,104	$ 4,744,012	$6,682	887	Various
2	Allison Elementary	AAA, Inc	x	x	x			23,644	$ 3,190,560	$ 795,672	$ 2,151,604	$5,289	702	Various
3	Armstrong Elementary	AAA, Inc	x	x	x			38,942	$ 5,241,988	$ 1,117,332	$ 3,543,722	$4,136	549	Various
4	Arroyo Elementary	AAA, Inc	x	x	x			66,980	$ 7,088,391	$ 1,656,435	$ 6,095,180	$9,779	1298	Various
5	Barfield, Elementary	AAA, Inc	x	x	x			50,816	$ 4,810,393.00	$ 1,278,247	$4,624,256	$7,315	971	Various
6	Decker Elementary	AAA, Inc	x	x	x			42,576	$5,370,750.00	$ 1,154,276	$3,874,416	$5,643	749	Various
7	Diamond Point Elementar	AAA, Inc	x	x	x			47,108	$ 6,191,245	$ 1,310,602	$4,286,828	$5,093	676	Various
8	Diamond Ranch High	AAA, Inc	x	x	x			80,000	$21,879,990	$ 6,734,627	$7,280,000	$15,347	2037	Various
9	Education Center	AAA, Inc	x	x	x	x	x	105,404	$ 11,616,192	$ 3,742,756	$9,591,764	$2,788	370	Various
10	El Camino	AAA, Inc	x	x	x			1,920	$116,160.00	$ 41,300	$174,720	$1,981	263	Various
11	Emerson Middle School	AAA, Inc	x	x	x			83,136	$ 10,358,788.00	$ 2,706,264	$7,565,376	$10,103	1341	Various
12	Fremont Middle	AAA, Inc	x	x	x			84,270	$11,686,662	$ 2,394,952	$7,668,570	$11,535	1531	Various
13	Ganesha High	AAA, Inc	x	x	x			143,728	$21,893,105	$ 5,174,405	$13,079,248	$13,200	1752	Various
14	Garey High	AAA, Inc	x	x	x			161,544	$23,075,915	$4, 392,586	$14,700,504	$12,024	1596	Various
15	Garey Village/9th Gr	AAA, Inc	x	x	x			175,330	$22,617,570	$ 4,804,042	$15,955	$6,411	851	Various
16	Golden Springs Elementar	AAA, Inc	x	x	x			43,512	$ 4,386,418.00	$ 1,216,350	$3,959,592	$6,441	855	Various
17	Harrison Elementary Scho	AAA, Inc	x	x	x			41,592	$ 5,069,926.00	$ 1,093,610	$3,784,872	$4,852	644	Various
18	Kellogg Polytechnic	AAA, Inc	x	x	x			42,517	$4,580,409.00	$ 1,105,680	$3,869,047	$5,289	702	Various
19	Kingsley Elementary	AAA, Inc	x	x	x			62,768	$756,272.00	$ 120,118	$5,711,888	$8,310	1103	Various
20	Lexington Elementary	AAA, Inc	x	x	x			56,564	$5,940,807.00	$ 1,428,724	$5,147,324	$8,257	1013	Various
21	Lincoln Elementry	AAA, Inc	x	x	x		x	54,946	$5,099,550.00	$ 1,406,318	$5,000,086	$6,283	834	Various
22	Lorbeer Middle	AAA, Inc	x	x	x			68,259	$8,603,268.00	$ 1,891,393	$6,211,569	$8,747	1161	Various

POMONA UNIFIED SCHOOL DISTRICT

23	Madison Elementary	AAA, Inc	x	x	x			67,040	$6,581,827.00	$ 1,814,665	$6,100,640	$7,475	992	Various
24	Marshall Middle	AAA, Inc	x	x	x			80,126	$11,470,686.00	$ 2,801,073	$7,291,466	$11,693	1552	Various
25	Mendoza Elementary	AAA, Inc	x	x	x			29,760	$1,705,858.00	$ 912,910	$2,708,160	$3,857	512	Various
26	Montvue Elementary	AAA, Inc	x	x	x			33,072	$3,629,174.00	$ 967,666	$3,009,552	$3,971	570	Various
27	Palomares Middle	AAA, Inc	x	x	x			81,370	$12,026,874	$ 2,229,342	$7,404,670	$8,681	1108	Various
28	Pantera Elementary	AAA, Inc	x	x	x			41,200	$5,022,142	$ 1,083,300	$3,749,200	$1,831	243	Various
29	Park West High	AAA, Inc	x	x	x			23,644	$2,900,509.00	$ 795,672	$2,151,604	$2,064	274	Various
30	Philadelphia Elementary	AAA, Inc	x	x	x			54,016	$6,299,824.00	$ 1,393,201	$4,915,456	$8,594	1098	Various
31	Pomona High	AAA, Inc	x	x	x			141,090	$17,699,791.00	$ 4,966,781	$12,839,190	$15,114	2006	Various
32	Pueblo Elementary	AAA, Inc	x	x	x			27,341	$2,432,524.00	$ 602,569	$2,488,031	$13,554	1799	Various
33	Ranch Hills Elementary	AAA, Inc	x	x	x			49,156	$6,053,690.00	$ 1,221,667	$4,473,196	$4,612	623	Various
34	Roosevelt Elementary	AAA, Inc	x	x	x			59,874	$7,136,666.00	$ 1,454,939	$5,448,534	$8,257	1013	Various
34	San Antonio Elementary	AAA, Inc	x	x	x			34,960	$2,014,409.00	$ 1,122,944	$3,181,360	$3,895	517	Various
36	San Jose Elementary	AAA, Inc	x	x	x			38,191	$3,516,131.00	$ 993,176	$3,475,381	$5,485	728	Various
37	Simons Middle	AAA, Inc	x	x	x			91,338	$11,729,537.00	$ 2,632,551	$8,311,758	$12,243	1625	Various
38	Vejar Elementary	AAA, Inc	x	x	x			60,575	$6,930,438.00	$ 4,302,838	$5,512,325	$10,178	1351	Various
39	Yorba Elementary	AAA, Inc	x	x	x			28,640	$3,439,604	$ 874,172	$2,606,240	$3,804	507	Various
40	ACE 605 Park	AAA, Inc	x	x	x			11,125	$671,470.00	$ 374,314	$1,012,375	$866	111	Various
41	CE Voc Ctr 1515 Missio	AAA, Inc	x	x	x			45,148	$4,156,641.00	$ 1,612,768	$4,108,468	$3,518	451	Various
42	Village @ Indian Hill	AAA, Inc	x	x	x			73,254	$23,023,732	$ 1,531,764	$6,666,114	$5,717	733	Various
43	Village Tower	AAA, Inc	x	x	x			38,450	$ 3,177,554.00	$ 999,908	3,498,950	$3,003	385	1958
44	Washington Elementary	AAA, Inc	x	x	x			42,462	$4,665,557.00	$ 1,145,954	$3,864,042	$5,328	697	Various
45	Westmont Elementary	AAA, Inc	x	x	x			47,432	$4,571,527	$ 1,282,264	$4,316,312	$6,197	823	Various

A. Functional value for schools is defined by FEMA as $91.00 per square foot

B. You must calculate displacement cost (loss of use and extra expense).

C. Occupancy per school site including teachers, administrators and students.

D. Various refers to various years built as referenced in the American Appraisal Report *document can be supplied upon request

POMONA UNIFIED SCHOOL DISTRICT

School District: Pomona Unified School District

August 13, 2004 — Hazard: Earthquake — Worksheet C

Name or Description of Structure	Structure Replace- ment Value	Percent Damage	Loss to Structure	Replacement Value of Contents	Percent Damage	Loss to Contents	Average Daily Operating Budget	Functional Downtime in days	Displace- ment Cost Per Day	Displace- ment Time in Days	Structure Use & Function Loss	Structure + Content + Function Losses (in Dollars)
	Loss to Structures			**Loss to Contents**			**Losses to Functions**					
Alcott Elementary	$ 6,248,815	36.8%	$ 2,299,564	$ 1,384,104	100%	$ 1,384,104	$ 23,916	183	$6,682	30	$ 4,577,006	$8,260,674
Allison Elementary	$ 3,190,560	36.8%	$ 1,174,126	$ 795,672	100%	$ 795,672	$ 13,593	183	$5,289	30	$ 2,646,152	$4,615,950
Armstrong Elementary	$ [illegible] 241,988	36.8%	$ 1,929,052	$ 1,117,332	100%	$ 1,117,332	$ 16,426	183	$4,136	30	$ 3,130,075	$6,176,458
Arroyo Elementary	$ [illegible] 088 301	36.8%	$ 2,6[illegible],28	$ 1,656,435	100%	$ 1,656,435	$ 25,142	183	$9,779	30	$ 4,894,374	$9,159,337
Barfield, Elementary	$ [illegible] 810,393.00	36.8%	$ 1,770,225	$ 1,278,247	100%	$ 1,278,247	$ 15,273	183	$7,315	30	$ 3,014,409	$6,062,881
Decker Elementary	$5,370,750.00	36.8%	$ 1,976,436	$ 1,154,276	100%	$ 1,154,276	$ 12,684	183	$5,643	30	$ 2,490,462	$5,621,174
Diamond Point Elementary	$ [illegible] 191,245.00	36.8%	$ 2,278,378	$ 1,310,602	100%	$ 1,310,602	$ 17,486	183	$5,093	30	$ 3,352,728	$6,941,708
Diamond Ranch High	$21,879,990	36.8%	$ 8,051,836	$ 6,734,627	100%	$ 6,734,627	$ 38,384	183	$15,347	30	$ 7,484,682	$22,271,145
Education Center	$ 11,616,192.00	36.8%	$ 4,274,759	$ 3,742,756	100%	$ 3,742,756	$ 160,603	260	$2,786	30	$ 41,840,420	$49,857,935
El Camino	$116,160.00	36.8%	$ 42,747	$ 41,300	100%	$ 41,300	$ 1,255	183	$1,981	30	$ 289,095	$373,142
Emerson Middle School	$ 10,358,783.00	36.8%	$ 3,812,034	$ 2,706,264	100%	$ 2,706,264	$ 22,233	183	$10,103	30	$ 4,371,729	$10,890,027
Fremont Middle	$11,666,662	36.8%	$ 4,300,692	$ 2,394,952	100%	$ 2,394,952	$ 21,040	183	$11,535	30	$ 4,196,370	$10,892,014
Ganesha High	$21,893,105	36.8%	$ 8,056,663	$ 5,174,405	100%	$ 5,174,405	$ 43,030	183	$13,200	30	$ 8,270,490	$21,501,558
Garey High	$23,075,915	36.8%	$ 8,491,937	$ 4,392,586	100%	$ 4,392,586	$ 55,133	183	$12,024	30	$ 10,450,059	$23,334,582
Garey Village/9th Gr	$13,818,924	36.8%	$ 5,085,364	$ 4,280,766	100%	$ 4,280,766	$ 69,508	260	$6,411	30	$ 18,264,410	$27,630,540
Golden Springs Elementary	$ 4,386,418.00	36.8%	$ 1,614,202	$ 1,216,350	100%	$ 1,216,350	$ 11,119	183	$6,441	30	$ 2,228,007	$5,058,559
Harrison Elementary School	$ 5,069,926.00	36.8%	$ 1,865,733	$ 1,093,610	100%	$ 1,093,610	$ 12,401	183	$4,852	30	$ 2,414,943	$5,374,286
Kellogg Polytechnic	$4,580,409.00	36.8%	$ 1,685,591	$ 1,105,680	100%	$ 1,105,680	$ 11,506	183	$5,289	30	$ 2,264,268	$5,055,539
Kingsley Elementary	$756,272.00	36.8%	$ 278,308	$ 120,118	100%	$ 120,118	$ 19,117	183	$8,310	30	$ 3,747,711	$4,146,137
Lexington Elementary	$5,940,807.00	36.8%	$ 2,186,217	$ 1,428,724	100%	$ 1,428,724	$ 17,280	183	$8,257	30	$ 3,409,950	$7,024,891
Lincoln Elementry	$5,099,550.00	36.8%	$ 1,876,634	$ 1,406,318	100%	$ 1,406,318	$ 15,544	183	$6,283	30	$ 3,033,042	$6,315,994
Lorbeer Middle	$8,603,268.00	36.8%	$ 3,166,003	$ 1,891,393	100%	$ 1,891,393	$ 31,123	183	$8,747	30	$ 5,957,919	$11,015,315
Madison Elementary	$6,581,827.00	36.8%	$ 2,422,112	$ 1,814,665	100%	$ 1,814,665	$ 22,120	183	$7,475	30	$ 4,272,210	$8,508,987
Marshall Middle	$11,470,686.00	36.8%	$ 4,221,212	$ 2,801,073	100%	$ 2,801,073	$ 22,971	183	$11,693	30	$ 4,554,483	$11,576,768
Mendoza Elementary	$1,705,858.00	36.8%	$ 627,756	$ 912,910	100%	$ 912,910	$ 14,922	183	$3,857	30	$ 2,846,436	$4,387,102
Montvue Elementary	$3,629,174.00	36.8%	$ 1,335,536	$ 967,666	100%	$ 967,666	$ 10,021	183	$3,971	30	$ 1,952,973	$4,256,175
Palomares Middle	$12,026,874	36.8%	$ 4,425,890	$ 2,229,342	100%	$ 2,229,342	$ 14,667	183	$8,681	30	$ 2,944,491	$9,599,723
Pantera Elementary	$5,022,142	36.8%	$ 1,848,148	$ 1,083,300	100%	$ 1,083,300	$ 6,579	183	$1,831	30	$ 1,258,887	$4,190,335

POMONA UNIFIED SCHOOL DISTRICT

Park West High	$2,900,509.00	36.8%	$ 1,067,387	$ 795,672	100%	$ 795,672	$ 7,313	183	$2,064	30	$ 1,400,199	$3,263,258
Philadelphia Elementary	$6,299,824.00	36.8%	$ 2,318,335	$ 1,393,201	100%	$ 1,393,201	$ 21,879	183	$8,594	30	$ 4,261,677	$7,973,213
Pomona High	$17,699,791.00	36.8%	$ 6,513,523	$ 4,966,781	100%	$ 4,966,781	$ 40,550	183	$15,114	30	$ 7,874,070	$19,354,374
Pueblo Elementary	$2,432,524.00	36.8%	$ 895,169	$ 602,569	100%	$ 602,569	$ 33,611	183	$13,554	30	$ 6,557,433	$8,055,171
Ranch Hills Elementary	$6,053,690.00	36.8%	$ 2,227,758	$ 1,221,667	100%	$ 1,221,667	$ 10,017	183	$4,612	30	$ 1,971,471	$5,420,896
Roosevelt Elementary	$7,136,666.00	36.8%	$ 2,626,293	$ 1,454,939	100%	$ 1,454,939	$ 33,219	183	$8,257	30	$ 6,326,787	$10,408,019
San Antonio Elementary	$2,014,409.00	36.8%	$ 741,303	$ 1,122,944	100%	$ 1,122,944	$ 14,212	183	$3,895	30	$ 2,717,646	$4,581,893
San Jose Elementary	$3,516,131.00	36.8%	$ 1,293,936	$ 993,176	100%	$ 993,176	$ 11,700	183	$5,485	30	$ 2,305,650	$4,592,762
Simons Middle	$11,729,537.00	36.8%	$ 4,316,470	$ 2,632,551	100%	$ 2,632,551	$ 26,304	183	$12,243	30	$ 5,180,922	$12,129,943
Vejar Elementary	$6,930,438.00	36.8%	$ 2,550,401	$ 4,302,838	100%	$ 4,302,838	$ 24,610	183	$10,178	30	$ 4,808,970	$11,662,209
Yorba Elementary	$3,439,604	36.8%	$ 1,265,774	$ 874,172	100%	$ 874,172	$ 9,300	183	$3,804	30	$ 1,816,020	$3,955,966
ACE 605 Park	$671,470.00	36.8%	$ 247,101	$ 374,314	100%	$ 374,314	$ 13,362	183	$3,518	30	$ 2,550,786	$3,172,201
ACE Voc Ctr 1515 Mission	$4,156,641.00	36.8%	$ 1,529,644	$ 1,612,768	100%	$ 1,612,768	$ 54,291	260	$5,717	30	$ 14,287,170	$17,429,582
Village @ Indian Hill/VA	$23,023,732	36.8%	$ 8,472,733	$ 1,531,764	100%	$ 1,531,764	$ 210,645	260	$3,003	30	$ 54,857,790	$64,862,287
Village Tower	$ 3,177,554.00	36.8%	$ 1,169,340	$ 999,908	100%	$ 999,908	$ 146,891	260	$5,328	30	$ 38,351,500	$40,520,748
Washington Elementary	$4,665,557.00	36.8%	$ 1,716,925	$ 1,145,954	100%	$ 1,145,954	$ 29,022	183	$5,328	30	$ 5,470,866	$8,333,745
Westmont Elementary	$4,571,527	36.8%	$ 1,682,322	$ 1,282,264	100%	$ 1,282,264	$ 14,742	183	$6,197	30	$ 2,883,696	$5,848,282
												$531,663,484
The District has two types of structures - Masonry Bearing Walls and Wood or Steel Frame Exterior Walls												
The % damage was selected from single recidence loss estimation table PGA 0.55 Low* - 36.8% reinforced masonry												

HAZUS-MH: Earthquake Event Report

Region Name: ***City of Pomona_v2***

Earthquake Scenario: ***100 Year M 7***

Print Date: ***July 08, 2004***

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General Description of the Region

HAZUS is a regional earthquake loss estimation model that was developed by the Federal Emergency Management Agency and the National Institute of Building Sciences. The primary purpose of HAZUS is to provide a methodology and software application to develop earthquake losses at a regional scale. These loss estimates would be used primarily by local, state and regional officials to plan and stimulate efforts to reduce risks from earthquakes and to prepare for emergency response and recovery.

The earthquake loss estimates provided in this report was based on a region that includes 1 county(ies) from the following state(s):

California

Note:
Appendix A contains a complete listing of the counties contained in the region.

The geographical size of the region is 21.88 square miles and contains 25 census tracts. There are over 37 thousand households in the region and has a total population of 148,065 people (2000 Census Bureau data). The distribution of population by State and County is provided in Appendix B.

There are an estimated 30 thousand buildings in the region with a total building replacement value (excluding contents) of 6,307 (millions of dollars). Approximately 98.00 % of the buildings (and 81.00% of the building value) are associated with residential housing.

The replacement value of the transportation and utility lifeline systems is estimated to be 572 and 78 (millions of dollars), respectively.

Building and Lifeline Inventory

Building Inventory

HAZUS estimates that there are 30 thousand buildings in the region which have an aggregate total replacement value of 6,307 (millions of dollars) . Appendix B provides a general distribution of the building value by State and County.

In terms of building construction types found in the region, wood frame construction makes up 92% of the building inventory. The remaining percentage is distributed between the other general building types.

Critical Facility Inventory

HAZUS breaks critical facilities into two (2) groups: essential facilities and high potential loss (HPL) facilities. Essential facilities include hospitals, medical clinics, schools, fire stations, police stations and emergency operations facilities. High potential loss facilities include dams, levees, military installations, nuclear power plants and hazardous material sites.

For essential facilities, there are 3 hospitals in the region with a total bed capacity of 1,192 beds. There are 49 schools, 1 fire stations, 4 police stations and 0 emergency operation facilities. With respect to HPL facilities, there are 0 dams identified within the region. Of these, 0 of the dams are classified as 'high hazard'. The inventory also includes 6 hazardous material sites, 0 military installations and 0 nuclear power plants.

Transportation and Utility Lifeline Inventory

Within HAZUS, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The lifeline inventory data are provided in Tables 2 and 3.

The total value of the lifeline inventory is over 650.00 (millions of dollars). This inventory includes over 56 kilometers of highways, 68 bridges, 1,098 kilometers of pipes.

Table 2: Transportation System Lifeline Inventory

System	Component	# locations/ # Segments	Replacement value (millions of dollars)
Highway	Bridges	68	227.80
	Segments	5	284.90
	Tunnels	0	0.00
	Subtotal		**512.70**
Railways	Bridges	6	0.70
	Facilities	1	2.60
	Segments	9	57.00
	Tunnels	0	0.00
	Subtotal		**60.30**
Light Rail	Bridges	0	0.00
	Facilities	0	0.00
	Segments	0	0.00
	Tunnels	0	0.00
	Subtotal		**0.00**
Bus	Facilities	0	0.00
	Subtotal		**0.00**
Ferry	Facilities	0	0.00
	Subtotal		**0.00**
Port	Facilities	0	0.00
	Subtotal		**0.00**
Airport	Facilities	0	0.00
	Runways	0	0.00
	Subtotal		**0.00**
	Total		**573.00**

Table 3: Utility System Lifeline inventory

System	Component		# Locations / Segments	Replacement value (millions of dollars)
Potable Water	Distribution Lines		NA	11.00
	Facilities		0	0.00
	Pipelines		0	0.00
		Subtotal		**11.00**
Waste Water	Distribution Lines		NA	6.60
	Facilities		1	78.60
	Pipelines		0	0.00
		Subtotal		**85.20**
Natural Gas	Distribution Lines		NA	4.40
	Facilities		0	0.00
	Pipelines		0	0.00
		Subtotal		**4.40**
Oil Systems	Facilities		0	0.00
	Pipelines		0	0.00
		Subtotal		**0.00**
Electrical Power	Facilities		0	0.00
		Subtotal		**0.00**
Communication	Facilities		0	0.00
		Subtotal		**0.00**
		Total		**100.60**

Earthquake Scenario

HAZUS uses the following set of information to define the earthquake parameters used for the earthquake loss estimate provided in this report.

Scenario Name	100 Year M 7
Type of Earthquake	Probabilistic
Fault Name	NA
Historical Epicenter ID #	NA
Probabilistic Return Period	100.00
Longitude of Epicenter	NA
Latitude of Epicenter	NA
Earthquake Magnitude	7.00
Depth (Km)	NA
Rupture Length (Km)	NA
Rupture Orientation (degrees)	NA
Attenuation Function	NA

Building Damage

HAZUS estimates that about 8,709 thousand buildings will be at least moderately damaged. This is over 29.00 % of the total number of buildings in the region. There are an estimated 341 buildings that will be completely destroyed. The definition of the 'damage states' is provided in Volume 1: Chapter 5 of the HAZUS technical manual. Table 4 below summaries the expected damage by general occupancy for the buildings in the region. Table 5 summaries the expected damage by general building type.

Table 4: Expected Building Damage by Occupancy

	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Commercial	67	0.75	83	0.65	113	1.59	59	4.72	18	5.24
Education	4	0.05	4	0.03	5	0.06	2	0.15	0	0.10
Government	1	0.01	1	0.01	1	0.01	1	0.04	0	0.04
Industrial	21	0.23	26	0.21	42	0.59	23	1.85	8	2.23
Other Residential	426	4.71	695	5.49	851	11.95	532	42.74	147	42.99
Religion	2	0.02	2	0.02	3	0.04	1	0.11	0	0.12
Single Family	8,518	94.23	11,842	93.59	6,108	85.76	627	50.38	168	49.28
Total	**9,040**		**12,653**		**7,123**		**1,245**		**341**	

Table 5: Expected Building Damage by Building Type (All Design Levels)

	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	39	0.03	4	0.03	6	0.09	3	0.23	1	0.18
MH*	75	0.83	225	1.78	551	7.74	456	36.60	126	36.93
Precast	19	0.16	20	0.16	34	0.48	18	1.48	6	1.72
RM*	132	1.43	101	0.80	146	2.04	74	5.96	11	3.15
Steel	31	0.02	5	0.04	13	0.18	11	0.92	3	0.93
UM*	7	0.08	11	0.09	19	0.26	12	0.92	8	2.20
Wood	8,738	96.50	12174	96.21	6,213	87.23	600	48.17	168	49.30
Total	**9,040**		**12,653**		**7,123**		**1,245**		**341**	

*Note:
RM Reinforced Masonry
URM Unreinforced Masonry
MH Manufactured Housing

Essential Facility Damage

Before the earthquake, the region had 1,192 hospital beds available for use. On the day of the earthquake, the model estimates that only 1,192 hospital beds (100.00%) are available for use by patients already in the hospital and those injured by the earthquake. After one week, 100.00% of the beds will be back in service. By 30 days, 100.00% will be operational.

Table 6: Expected Damage to Essential Facilities

	# Facilities			
Classification	Total	Least Moderate Damage > 50%	Complete Damage > 50%	# likely Functional on day 1
Hospitals	3	0	0	3
Schools	49	0	0	49
EOCs	0	0	0	0
PoliceStations	4	0	0	4
FireStations	1	0	0	1

Transportation and Utility Lifeline Damage

Table 7 provides damage estimates for the transportation system.

Table 7: Expected Damage to the Transportation Systems

System	Component	Number of Locations				
		Locations/ Segments	With at Least Mod. Damage	With Complete Damage	With Functionality > 50 % After Day 1	With Functionality > 50 % After Day 7
Highway	Segments	5	0	0	5	5
	Bridges	68	0	0	68	68
	Tunnels	0	0	0	0	0
Railways	Segments	9	0	0	9	9
	Bridges	6	0	0	6	6
	Tunnels	0	0	0	0	0
	Facilities	1	0	0	1	1
Light Rail	Segments	0	0	0	0	0
	Bridges	0	0	0	0	0
	Tunnels	0	0	0	0	0
	Facilities	0	0	0	0	0
Bus	Facilities	0	0	0	0	0
Ferry	Facilities	0	0	0	0	0
Port	Facilities	0	0	0	0	0
Airport	Facilities	0	0	0	0	0
	Runways	0	0	0	0	0

Note: Roadway segments, railroad tracks and light rail tracks are assumed to be damaged by ground failure only. If ground failure maps are not provided, damage estimates to these components will not be computed.

Tables 8-10 provide information on the damage to the utility lifeline systems. Table 8 provides damage to the utility system facilities. Table 9 provides estimates on the number of leaks and breaks by the pipelines of the utility systems. For electric power and potable water, HAZUS performs a simplified system performance analysis. Table 10 provides a summary of the system performance information.

Table 8 : Expected Utility System Facility Damage

System	Total #	# of Locations With at Least Moderate Damage	# of Locations With Complete Damage	# of Locations with Functionality > 50 % After Day 1	# of Locations with Functionality > 50 % After Day 7
Potable Water	0	0	0	0	0
Waste Water	1	0	0	1	1
Natural Gas	0	0	0	0	0
Oil Systems	0	0	0	0	0
Electrical Power	0	0	0	0	0
Communication	0	0	0	0	0

Table 9 : Expected Utility System Pipeline Damage (Site Specific)

System	Total Pipelines Length (kms)	Number of Leaks	Number of Breaks
Potable Water	549	326	81
Waste Water	330	258	64
Natural Gas	220	275	69
Oil	0	0	0

Table 10: Expected Potable Water and Electric Power System Performance

	Total # of Households	Number of Households without Service At Day 1	At Day 3	At Day 7	At Day 30	At Day 90
Potable Water	37,069	19,016	223	0	0	0
Electric Power		0	0	0	0	0

Fire Following Earthquake

Fires often occur after an earthquake. Because of the number of fires and the lack of water to fight the fires, they can often burn out of control. HAZUS uses a Monte Carlo simulation model to estimate the number of ignitions and the amount of burnt area. For this scenario, the model estimates that there will be 4 ignitions that will burn about 0.02 sq. mi 0.09 % of the region's total area.) The model also estimates that the fires will displace about 112 people and burn about 5 (millions of dollars) of building value.

Debris Generation

HAZUS estimates the amount of debris that will be generated by the earthquake. The model breaks the debris into two general categories: a) Brick/Wood and b) Reinforced Concrete/Steel. This distinction is made because of the different types of material handling equipment required to handle the debris.

The model estimates that a total of 0 million tons of debris will be generated. Of the total amount, Brick/Wood comprises 0.00% of the total, with the remainder being Reinforced Concrete/Steel. If the debris tonnage is converted to an estimated number of truckloads, it will require 0 truckloads (@25 tons/truck) to remove the debris generated by the earthquake.

Shelter Requirement

HAZUS estimates the number of households that are expected to be displaced from their homes due to the earthquake and the number of displaced people that will require accommodations in temporary public shelters. The model estimates (920 households to be displaced due to the earthquake. Of these, 278 people (out of a total population of 148,065 will seek temporary shelter in public shelters.

Casualties

HAZUS estimates the number of people that will be injured and killed by the earthquake. The casualties are broken down into four (4) severity levels that describe the extent of the injuries. The levels are described as follows;

- Severity Level 1: Injuries will require medical attention but hospitalization is not needed.
- Severity Level 2: Injuries will require hospitalization but are not considered life-threatening
- Severity Level 3: Injuries will require hospitalization and can become life threatening if not promptly treated.
- Severity Level 4: Victims are killed by the earthquake.

The casualty estimates are provided for three (3) times of day: 2:00 AM, 2:00 PM and 5:00 PM. These times represent the periods of the day that different sectors of the community are at their peak occupancy loads. The 2:00 AM estimate considers that the residential occupancy load is maximum, the 2:00 PM estimate considers that the educational, commercial and industrial sector loads are maximum and 5:00 PM represents peak commute time.

Table 11 provides a summary of the casualties estimated for this earthquake

Table 11: Casualty Estimates

		Level 1	Level 2	Level 3	Level 4
2 AM	Commercial	3	1	0	0
	Commuting	0	0	0	0
	Educational	0	0	0	0
	Hotels	1	0	0	0
	Industrial	7	2	0	1
	Other-Residential	130	28	3	6
	Single Family	140	19	1	1
	Total	**282**	**50**	**4**	**8**
2 PM	Commercial	233	61	9	18
	Commuting	0	0	0	0
	Educational	48	12	2	4
	Hotels	0	0	0	0
	Industrial	54	14	2	4
	Other-Residential	28	6	1	1
	Single Family	31	4	0	0
	Total	**393**	**97**	**14**	**28**
5 PM	Commercial	199	52	8	16
	Commuting	0	0	0	0
	Educational	6	1	0	0
	Hotels	0	0	0	0
	Industrial	33	9	1	3
	Other-Residential	49	10	1	2
	Single Family	54	8	0	1
	Total	**342**	**80**	**11**	**21**

The total economic loss estimated for the earthquake is 756.71 (millions of dollars), which includes building and lifeline related losses based on the region's available inventory. The following three sections provide more detailed information about these losses.

Building-Related Losses

The building losses are broken into two categories: direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the earthquake. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the earthquake.

The total building-related losses were 748.98 (millions of dollars); 11 % of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up over 63 % of the total loss. Table 12 below provides a summary of the losses associated with the building damage.

Table 12: Building-Related Economic Loss Estimates

(Millions of dollars)

Category	Area	Single Family	Other Residential	Commercial	Industrial	Others	Total
Income Loses							
	Wage	0.00	0.94	24.30	1.65	1.07	27.96
	Capital-Related	0.00	0.40	16.22	1.08	0.43	18.14
	Rental	9.11	10.72	9.82	0.89	0.52	31.06
	Relocation	1.16	0.38	0.77	0.09	0.20	2.60
	Subtotal	**10.27**	**12.43**	**51.12**	**3.72**	**2.22**	**79.76**
Capital Stock Loses							
	Structural	45.07	17.50	29.00	9.41	2.88	103.85
	Non_Structural	215.35	89.76	71.46	29.87	13.61	420.06
	Content	59.90	19.74	33.35	20.06	6.75	139.80
	Inventory	0.00	0.00	1.67	3.82	0.02	5.51
	Subtotal	**320.31**	**127.00**	**135.48**	**63.16**	**23.26**	**669.22**
	Total	**330.58**	**139.43**	**186.60**	**66.88**	**25.49**	**748.98**

Transportation and Utility Lifeline Losses

For the transportation and utility lifeline systems, HAZUS computes the direct repair cost for each component only. There are no losses computed by HAZUS for business interruption due to lifeline outages. Tables 13 & 14 provide a detailed breakdown in the expected lifeline losses.

HAZUS estimates the long-term economic impacts to the region for 15 years after the earthquake. The model quantifies this information in terms of income and employment changes within the region. Table 15 presents the results of the region for the given earthquake.

Table 13: Transportation System Economic Losses
(Millions of dollars)

System	Component	Inventory Value	Economic Loss	Loss Ratio (%)
Highway	Segments	284.89	$0.00	0.00
	Bridges	227.81	$0.00	0.00
	Tunnels	0.00	$0.00	0.00
	Subtotal	**512.70**	**0.00**	
Railways	Segments	56.98	$0.00	0.00
	Bridges	0.71	$0.00	0.00
	Tunnels	0.00	$0.00	0.00
	Facilities	2.57	$0.00	0.00
	Subtotal	**60.30**	**0.00**	
Light Rail	Segments	0.00	$0.00	0.00
	Bridges	0.00	$0.00	0.00
	Tunnels	0.00	$0.00	0.00
	Facilities	0.00	$0.00	0.00
	Subtotal	**0.00**	**0.00**	
Bus	Facilities	0.00	$0.00	0.00
	Subtotal	**0.00**	**0.00**	
Ferry	Facilities	0.00	$0.00	0.00
	Subtotal	**0.00**	**0.00**	
Port	Facilities	0.00	$0.00	0.00
	Subtotal	**0.00**	**0.00**	
Airport	Facilities	0.00	$0.00	0.00
	Runways	0.00	$0.00	0.00
	Subtotal	**0.00**	**0.00**	
	Total	**573.00**	**0.00**	

Table 14: Utility System Economic Losses

(Millions of dollars)

System	Component	Inventory Value	Economic Loss	Loss Ratio (%)
Potable Water	Pipelines	0.00	$0.00	0.00
	Facilities	0.00	$0.00	0.00
	Distribution Line	11.00	$2.93	26.70
	Subtotal	**10.98**	**$2.93**	
Waste Water	Pipelines	0.00	$0.00	0.00
	Facilities	78.60	$0.00	0.00
	Distribution Line	6.60	$2.32	35.19
	Subtotal	**85.18**	**$2.32**	
Natural Gas	Pipelines	0.00	$0.00	0.00
	Facilities	0.00	$0.00	0.00
	Distribution Line	4.40	$2.48	56.43
	Subtotal	**4.39**	**$2.48**	
Oil Systems	Pipelines	0.00	$0.00	0.00
	Facilities	0.00	$0.00	0.00
	Subtotal	**0.00**	**$0.00**	
Electrical Power	Facilities	0.00	$0.00	0.00
	Subtotal	**0.00**	**$0.00**	
Communication	Facilities	0.00	$0.00	0.00
	Subtotal	**0.00**	**$0.00**	
	Total	**100.56**	**$7.73**	

Table 15. Indirect Economic Impact with outside aid
(Employment as # of people and Income in millions of $)

	LOSS	Total	%
First Year			
	Employment Impact	0	0.00
	Income Impact	(93)	-5.07
Second Year			
	Employment Impact	0	0.00
	Income Impact	(107)	-5.84
Third Year			
	Employment Impact	0	0.00
	Income Impact	(113)	-6.14
Fourth Year			
	Employment Impact	0	0.00
	Income Impact	(113)	-6.15
Fifth Year			
	Employment Impact	0	0.00
	Income Impact	(113)	-6.15
Years 6 to 15			
	Employment Impact	0	0.00
	Income Impact	(113)	-6.15

Appendix A: County Listing for the Region

Los Angeles,CA

Appendix B: Regional Population and Building Value Data

State	County Name	Population	Building Value (millions of dollars)		
			Residential	Non-Residential	Total
California					
	Los Angeles	148,065	5,127	1,180	6,307
Total State		**148,065**	**5,127**	**1,180**	**6,307**
Total Region		**148,065**	**5,127**	**1,180**	**6,307**